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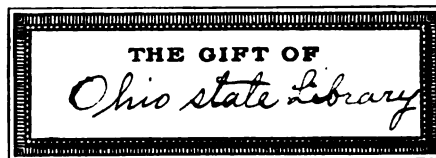
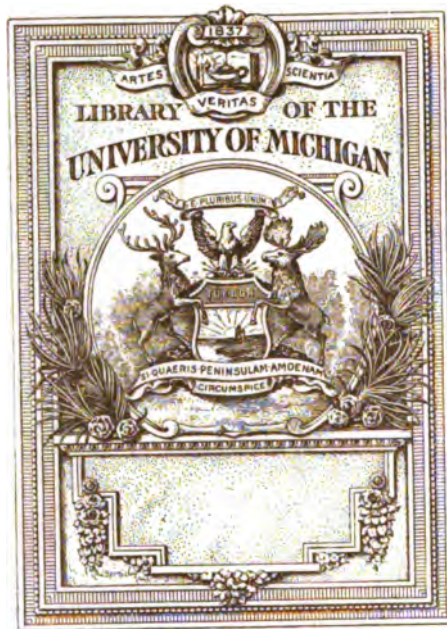
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MADE TO THE

Eighty-first General Assembly

REGULAR SESSION

OF THE



STATE OF OHIO.

PART II.



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AGRICULTURAL COMMISSION OF OHIO
COLUMBUS

Twenty-Ninth Annual Report

of the

Dairy and Food Division

For the Fiscal Year Ending November 15th

1914

SYLVANUS E. STRODE
Commissioner in Charge

DAIRY AND FOOD DIVISION

1914

AGRICULTURAL COMMISSION

OF OHIO



3 SYLVANUS E. STRODE, COMMISSIONER-IN-CHARGE
4 B. T. BARTLOW, CHIEF OF DIVISION

BUREAU OF DAIRIES

- 2. HARRY J. MESLON, CHIEF DAIRY INSPECTOR
- 10. CLINTON A. NIXON, DAIRY INSPECTOR
- 12. D. B. WAGNER, " "
- 13. C. A. PONTIUS, " "
- 20. T. C. GAULT, " "

BUREAU OF FOODS

- 7. JERTIMUS MAWER, INSPECTOR
- 21. W. C. GEAR, " "
- 9. CHAS. A. CORDY, " "
- 15. A. G. MASTERSON, " "
- 19. A. W. COMBS, " "
- 14. F. A. PILNER, " "
- 16. J. E. BINGHAM, " "
- 26. JACOB M. STYDE, " "
- 22. J. PHARO WOODSON, " "
- 5. LEBROY ROBERTSON, CANNING FACTORY INSPECTOR

BUREAU OF DRUGS

- 1. W. R. MOWER, CHIEF DRUG INSPECTOR
- 11. CHAS. T. BARMAN, DRUG INSPECTOR
- 17. E. W. HARRINGTON, " "
- 18. ADDISON C. JOHNSON, NARCOTIC INSPECTOR

BUREAU OF WEIGHTS AND MEASURES

- 6. FRED C. ALBRECHT, CHIEF INSPECTOR
- 8. MILTON A. DIEGLE, INSPECTOR

- 13. J. E. HICKERSON, CHIEF CLERK
- 23. ANNIE C. ROGE, BOOKKEEPER
- 24. MARION J. DUFFER, STENOGRAPHER
- 25. HELEN STRODE, CLERK

ORGANIZATION.

DAIRY AND FOOD DIVISION.

SYLVANUS E. STRODE.....	<i>Commissioner in Charge</i>
BERT S. BARTLOW.....	<i>Chief of Division</i>
S. ERNEST HICKERSON.....	<i>Chief Clerk</i>
MYRTLE MORGAN	<i>Stenographer</i>
ANNIE C. HOGE.....	<i>Bookkeeper</i>
BESSIE M. STRODE.....	<i>Extra Clerk</i>
JOHN R. THOMAS.....	<i>Messenger</i>
HARRY S. MESLOH.....	<i>Chief Inspector, Bureau of Dairies</i>
THOMAS C. GAULT.....	<i>Dairy Inspector</i>
CLINTON K. NIXON.....	<i>Dairy Inspector</i>
CHARLES A. PONTIUS.....	<i>Dairy Inspector</i>
DANIEL B. WAGNER.....	<i>Dairy Inspector</i>
SEPTIMUS MAWER	<i>Chief Inspector, Bureau of Foods</i>
LYMAN W. CAMPBELL.....	<i>Food Inspector</i>
MERION J. DOTTER.....	<i>Food Inspector</i>
FRANK A. FISHER.....	<i>Food Inspector</i>
WILLIAM C. GEAR.....	<i>Food Inspector</i>
ALMER G. MASTERSON.....	<i>Food Inspector</i>
JAMES F. ROBESON.....	<i>Food Inspector</i>
JACOB M. STYERS.....	<i>Food Inspector</i>
LYMAN G. BINGHAM.....	<i>Inspector of Canneries</i>
WILLARD R. HOWER.....	<i>Chief Inspector, Bureau of Drugs</i>
CHARLES T. BARMAN.....	<i>Drug Inspector</i>
E. W. HARRINGTON.....	<i>Drug Inspector</i>
ADDISON C. JOHNSTON.....	<i>Narcotic Inspector</i>
GEORGE OAKLEY	<i>Narcotic Inspector</i>
FRED C. ALBRECHT.....	<i>Chief Inspector, Bureau of Weights and Measures</i>
HILTON R. DIEGLE.....	<i>Inspector of Weights and Measures</i>

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LETTER OF TRANSMITTAL.

COLUMBUS, OHIO, December 10th, 1914

To the Agricultural Commission of Ohio.

DEAR SIRs:— Submitted herewith is the twenty-ninth annual report of the Dairy and Food Division for the fiscal year ending November 15th, 1914.

Very respectfully,

S. E. STRODE,
Commissioner in Charge.

(7)

TWENTY-NINTH ANNUAL REPORT OF THE DAIRY AND FOOD DIVISION.

The work of the past year has, on the whole been quite successful. While this is the first full year in which the Dairy and Food Division has been under the jurisdiction of the Agricultural Commission of Ohio, the work has been conducted on the same general policy which has prevailed during the past four years, the effort having been to increase the effectiveness of the work rather than to expand it.

ORGANIZATION.

The organization of the Division has undergone some changes in personnel. At the beginning of the fiscal year, Mr. Bert S. Bartlow, of Hamilton, Butler County, was appointed Chief of Division, to succeed Mr. Benjamin F. Gayman, Chief Inspector, who was promoted to be Secretary of the Agricultural Commission of Ohio.

In the death of Mr. Lee Roy Robertson, inspector of canneries, at his home in Xenia,, March 8, 1914, the Division lost one of its most conscientious and valuable inspectors, who was deeply interested in the work of the bureau of foods. His death was a severe loss. To fill the vacancy thus created, Mr. Lyman G. Bingham, of Lima, Allen County, who had served as assistant to Mr. Robertson, was appointed inspector of canneries.

Mr. Ralph H. Oyler, dismissed as inspector in the narcotic work, was succeeded by Mr. George Oakley, of Toledo, Lucas County.

Mr. Fred W. Leu, chief clerk, who resigned to accept the position of chief clerk of the Department of Public Printing, was succeeded by Mr. S. Ernest Hickerson, who was transferred from the Bureau of Weights and Measures.

Mr. Merion J. Dotter, who resigned as stenographer to accept an appointment as food inspector, was succeeded by Miss Myrtle Morgan, of Logan, Hocking County.

The inspection work of the Division is distributed among four bureaus, viz.: Dairies, Foods, Drugs and Weights and Measures. Each bureau is organized with a chief inspector in charge, who supervises a corps of field inspectors, and are held responsible for the bureau's work in their respective districts in the state.

In the Bureau of Dairies, Mr. Harry S. Mesloh, the chief dairy inspector in charge, is assisted by Messrs. Thomas C. Gault, Clinton K. Nixon, Charles A. Pontius and Daniel B. Wagner, dairy inspectors.

In the Bureau of Foods, Mr. Septimus Mawer, the chief food inspector, is supported by Messrs. Lyman W. Campbell, Merion J. Dotter, Frank A. Fisher, William C. Gear, Almer G. Masterson, James F. Robeson and Jacob M. Styers, food inspectors, and Lyman G. Bingham, inspector of canneries.

In the Bureau of Drugs, Mr. Willard R. Hower, the chief drug inspector, is assisted in the drug inspection work, by inspectors, Charles T. Barman, and E. W. Harrington, and in the narcotic inspection investigations, by Addison C. Johnston and George Oakley.

In the Bureau of Weights and Measures, Mr. Fred C. Albrecht, the chief inspector, is assisted by inspector Hilton R. Diegle.

The grouping of the bureaus constituting the Dairy and Food Division in this manner, has proven effective in producing the most thorough work in a harmonious and co-operative way, and consequently, in gaining for the State the best possible service.

DEPARTMENT PUBLICATIONS.

During the year the Dairy and Food Division issued the following publications for distribution:

"Twenty-Eighth Annual Report of the Dairy and Food Division for the Fiscal Year Ending November 15, 1913."

"Department Rulings Relative to Food and Dairy Products and Their Labeling", First Edition.

BUREAU OF DAIRIES:

Bulletin No. 2, "Questions and Answers Relating to the Administration of the Milk and Dairy Laws of Ohio", by H. S. Mesloh, Chief Dairy Inspector.

Bulletin No. 3, "Ohio Creamery Establishments with Location and Classification".

Bulletin No. 4, "Statistics of Ohio Creamery Establishments";

Circular, "Sanitary Code for Ice Cream Manufactories";

Circular, "Facts Every Farmer Should Know";

Circular, "Sanitary Regulation of Dairies";

Circular, "Sanitary Code for Cheese Factories".

BUREAU OF FOODS:

Bulletin No. 1, "Egg Catechism", by Septimus Mawer, Chief Food Inspector.

Circular No. 4, "Sanitary Code for Confectioners";

Circular No. 5, "Sanitary Code for Bottlers";

Circular No. 1, "Bad Eggs Warning", Second Edition;

Circular, "Devices for Candling Eggs".

BUREAU OF DRUGS:

Bulletin No. 1, "Questions and Answers Relating to the Administration of the Drug Laws of Ohio", by W. R. Hower, Chief Drug Inspector.

Circular No. 2, "What's In a Name?", Revised Edition.

BUREAU OF WEIGHTS AND MEASURES:

Circular, "Do You Know?"

Circular No. 6, "Specifications and Tolerances for Weighing and Measuring Devices and Instructions to Sealers", Second Edition.

Circular No. 8, "Table of Weights per Bushel".

SANITARY INSPECTION.

A very important work of the Dairy and Food Division, during the year, has been the development of a system of sanitary regulations for various food producing industries and much has been accomplished in this direction through the initiative and co-operation of the various interests affected. Indeed, so much progress has been made already that the time would seem to be near at hand when the manufacturing and handling of all food products in Ohio will be under the most modern sanitary regulations. With the voluntary assistance of representatives of the Ohio Ice Cream Manufacturers' Association, the State Confectioners' Association and the Ohio Bottlers' Association, the Dairy and Food Division prepared sanitary codes for the regulation of these three industries, which have been adopted by the Agricultural Commission of Ohio by virtue of which adoption the various codes have the effect of law, under the provisions of Section 1177-12:—

* * * "The Agricultural Commission shall make such uniform rules and regulations as may be necessary for the enforcement of the food, drug, dairy and sanitary laws of this state." * * *

And Section 1119:—

"A person, firm or corporation, who fails to comply with the rules of the Agricultural Commission, or to respect its lawful regulations, when notified so to do, shall forfeit and pay not less than fifty dollars nor more than five hundred dollars."

The going into effect of these new sanitary codes and the voluntary support given by the various industries affected, not only in helping to prepare the codes but also in pledging to aid in their enforcement, promises to soon place Ohio in the front rank with respect to protecting the public against impurities from lack of sanitary precautions in these industries. Ice cream, confectionery and bottled goods are products that are now used almost universally, and their consumption is growing at a rapid rate. The activity of the Department in surrounding these industries with the best sanitary precautions, and the consistent enforcement of the same, form a notable service in behalf of the health of the people. Protection in the matter of adulteration already exists through other State laws.

The sanitary codes adopted are as follows:

"SANITARY CODE FOR ICE CREAM MANUFACTORIES.

1. All factories or shops shall be open to the public at all times.
2. Work rooms must be thoroughly clean and free from dust, foul atmosphere and contamination, and shall be well lighted, to the end that there shall be no dark corners where rubbish or dirt may accumulate.
3. One square foot of glass surface exposed to natural light, unobscured by buildings or other devices nearer than ten feet, for each ten square feet of floor surface of the work rooms must be provided. Basements shall not be used as workrooms unless these provisions can be met.
4. Garbage and all waste material subject to decomposition, must be removed daily to the outside and deposited in a can provided exclusively for this purpose, composed of impervious material and provided with a tight fitting cover. Covers must be kept on the cans at all times except when entering or removing the material.
5. The sidewalls and ceilings of all workrooms shall be well plastered, tiled or wainscoted or ceiled with metal or lumber and shall be well painted to the end that they may be readily cleaned and they shall be kept free from dust, dirt and foreign matter and clean at all times.
6. The floors of all work rooms shall be impermeable and be made of cement, tile laid in cement, or other suitable non-absorbent material which can be flushed and washed clean with water. Floors shall be sloped to one or more drains which must be properly connected to the sewerage system.
7. Store and storage rooms for materials must be kept clean and free from objectionable odors.
8. Doors, windows and other openings of every work room shall be screened during the fly season with screens not coarser than 14 mesh wire gauge, or in any other manner equally effective to keep the work rooms free from flies and vermin at all seasons of the year.
9. All factories or shops shall have convenient toilet rooms, separate and apart from the work rooms, and no toilet rooms shall be within or connected directly with a work room, either by a door, window or other opening. The floors of the toilet room shall be of cement, tile or other non-absorbent material, and shall be kept clean at all times. Toilet rooms shall be furnished with separate ventilating flues or pipes discharging into soil pipes or on the outside of the building in which they are situated. Lavatories and wash rooms shall be adjacent to toilet rooms and shall be supplied with soap, running water and clean towels and shall be maintained in a sanitary condition. Work room employees before beginning work and after visiting toilet rooms shall wash their hands and arms thoroughly in clean water.
10. No person shall live or sleep in any building used as a factory or shop, unless the factory or shop is separated by impervious walls, without doors or windows or other openings from the parts of the building used for living or sleeping purposes.
11. No horses, cows or other animals shall be stabled or kept in any building where ice creams is made, unless the factory or shop is separated from the places where the horses, cows or other animals are stabled or kept by impervious walls without doors, windows or other openings.
12. No person suffering from an infectious disease, which can be transmitted through ice cream shall work in an ice cream manufacturing plant.
13. All work room employees shall be clean in person at all times and shall wear clean washable clothing and caps. They shall not smoke or chew tobacco while at work. They shall not touch the product with their hands at any time. Employees may be specially designated to cut and wrap brick ice cream and

to fill fancy moulds and as this work necessitates some handling of the product, such employees must be scrupulously clean and wear clean, washable clothing and caps.

14. All wagons, trucks, drays, cans and tubs, platforms and racks, shall be so constructed that they may readily be cleaned and they shall be kept clean. Utensils must be of smooth non-absorbent material, as tin, or tinned copper, the seams of which are flushed smooth with solder.
15. Suitable means or appliances shall be provided for the proper cleansing or sterilizing of freezers, vats, cans, mixing cans, or tanks, piping and all utensils used as containers for ice cream or raw material, and all tools used in making or the direct handling of ice cream, and all such apparatus, utensils, and tools after use shall be thoroughly cleansed and scalded with boiling water or sterilized with steam. The water supply for washing utensils must be free from contamination.
16. No person shall use any vessel in the manufacture and sale of ice cream for any other purpose.
17. Soft or melted ice cream or any other ice cream shall not be refrozen under any circumstances.
18. Milk and cream must be stored only in clean receptacles in clean refrigerators. Milk or cream which has undergone various fermentations, gaseous, bitter or otherwise, shall not be used in the manufacture of ice cream. Flavoring extracts, condiments, syrups, fruits, nuts and other materials used as food must be securely protected from dust, dirt, vermin, flies and other contamination, and must be kept and stored only in clean receptacles. Decomposed, decayed, fermented or rancid food material shall not be used. Ice cream must be stored only in clean receptacles in clean refrigerators.
19. It is expressly declared that the object of this code is to insure a pure and clean product, made, stored and handled under clean conditions, and no technical defect in the construction of any clause shall relieve any person of the obligation of complying with the letter and spirit of this code in its entirety.
20. All creamery and condensery operators, ice cream manufactures and all other dealers in milk and cream, and their customers must cleanse all receptacles used in shipping milk and cream as soon as they are emptied, when same are to be returned by railroads, trolley, or boat, in order to prevent the development of dangerous bacteria to threaten the health of the consumers of the product."

Adopted by the Agricultural Commission of Ohio, March 6, 1914.

SANITARY CODE FOR CHEESE FACTORIES.

1. Work Rooms must be thoroughly clean and free from dust, foul atmosphere and contamination and shall be well lighted, to the end that there shall be no dark corners where rubbish or dirt may accumulate. Hogs, poultry or other animals quartered or fed in a space within a hundred feet is a contamination. One square foot of glass surface exposed to natural light, unobscured by buildings or other devices nearer than ten feet, for each ten square feet of floor surface of the work room must be provided. Basements shall not be used as workrooms unless these provisions can be met.
2. The sidewalls and ceilings of all work rooms shall be well plastered, tiled or wainscoted, or ceiled with metal or lumber and shall be well painted to the end that they may be readily cleaned and they shall be kept free from dust,

dirt, and foreign matter and clean at all times. They shall present a smooth surface in order to facilitate cleaning..

3. The floors of all work rooms shall be impermeable and be made of cement, tile laid in cement, or other suitable non-absorbent material which can be flushed and washed clean with water. Floors shall be sloped to one or more drains which must be properly connected to the disposal system of sewage or waste, which shall not enter an open ditch within a distance of 100 feet.
4. Doors, windows and other openings of every work room shall be screened during the fly season with screens not coarser than 14 mesh wire gauge, or in any other manner equally effective to keep the work room free from flies and vermin at all seasons of the year.
5. Cheese cellars must be kept clean and free from objectionable odors and not to be used for storing vegetables.
6. All work room employees shall be clean in person at all times, and shall wear clean washable clothing. They shall not smoke or chew tobacco while at work in the factory.
7. All utensils, tools, racks, platforms and other appliances shall be so constructed that they may be readily cleaned and they shall be kept clean. Utensils must be of smooth non-absorbent material such as tin or tinned copper with seams flushed smooth with solder.
8. Suitable means or appliances and facilities for the proper cleansing of utensils and for sterilizing or scalding them in clean water must be provided.
9. Milk must be stored in clean vessels with covers and kept in a clean room free from the influences of dust, flies and dirt and contamination."

Adopted by the Agricultural Commission of Ohio, March 6, 1914.

SANITARY CODE FOR CONFECTIONERS.

RULES AND REGULATIONS FOR EMPLOYERS.

1. Work rooms must be thoroughly clean and free from dust, foul atmosphere and contamination and shall be well lighted.
2. Garbage and all waste material subject to decomposition, must be removed daily to the outside and deposited in a can provided exclusively for this purpose and composed of impervious material and provided with a tight fitting cover. Covers must be kept on cans at all times, except when depositing or removing material.
3. The side walls and ceilings of all workrooms shall be tight and they shall be kept free from dust, dirt and foreign matter and clean at all times.
4. The floors of all work rooms shall be of impermeable material and shall be kept clean and in good repair, at all times.
5. The store and storage rooms for materials must be kept clean and free from objectionable odors.
6. Every effort should be made to exterminate the flies and the department suggests the adoption of fly traps throughout the workrooms.
7. All factories or shops shall have convenient toilet rooms, separate and apart from the workrooms. The floors of the toilet rooms shall be of cement, tile or other non-absorbent material, and shall be kept clean at all times. Toilet rooms shall be furnished with separate ventilating flues or pipes discharging into soil pipes, or on the outside of the building, in which they are situated. Lavatories and washrooms shall be adjacent to toilet rooms and shall be supplied with soap, running water and clean towels.

8. No persons shall live or sleep in any building used as a factory or shop, unless the factory or shop is separated by impervious walls, without doors or windows, or other openings from the parts of the building used for living or sleeping purposes. No food products shall be stored or kept in a stable, barn or other place where animals are quartered.
9. No person suffering from an infectious disease, which can be transmitted through candy or confection, shall work in a candy manufacturing establishment.
10. All workroom employees shall be clean in person at all times and shall wear clean and washable clothing. Female employees shall also wear clean clothing and washable caps.
11. Suitable means and appliances shall be provided for the proper cleansing or sterilizing of containers, cans, pails, tools and other utensils and they shall be thoroughly cleansed and scalded with boiling water or sterilized with steam. The water supply for washing utensils must be free from contamination.
12. Sugar, glucose, syrups, fruits, nuts, condiments, flavoring extracts and all other materials used for food must be securely protected from flies, dust, dirt, vermin and other contamination and must be kept and stored only in clean receptacles. Decomposed, decayed, fermented or rancid food materials shall not be used. Candy and confections must be stored only in clean receptacles under clean surroundings.
13. It is expressly declared that the object of this code is to insure a pure and clean product, made, stored, and handled under clean conditions and no technical defect in the construction of any clause shall relieve any person of the obligation of complying with the spirit of this code in its entirety.

RULES AND REGULATIONS FOR EMPLOYEES.

1. Operatives, employees, clerks, and all other persons who handle the material from which food is prepared or the finished product, before beginning work or after visiting the toilet shall wash their hands and arms thoroughly in clean water.
2. The clothing and body of operatives, employees, clerks or other persons engaged in the manufacture, packing, storing or sale of candy shall be kept clean.
3. No person suffering from an infectious disease shall work in a candy manufacturing establishment.
4. No person shall live or sleep in any building used as a factory or shop, unless the factory or shop is separated by impervious walls, without doors or windows or other openings, from the parts of the building used for living or sleeping purposes.
5. All workroom employees shall be clean in person at all times and shall wear clean and washable clothing. Female employees shall wear clean and washable caps. Employees shall not smoke or chew tobacco while at work.
6. Employees shall use the utmost care in keeping the toilets in a sanitary condition. Rags and insoluble materials must not be thrown into the bowl of the toilet.
7. The Agricultural Commission of Ohio holds the employee responsible for compliance with the above rules and regulations.
Adopted by the Agricultural Commission of Ohio, March 27, 1914.

SANITARY CODE FOR THE BOTTLERS OF SODA WATERS AND
NATURAL AND ARTIFICIAL MINERAL WATERS.

1. The term Bottled Soda and Mineral Water as used in this code shall include all non-alcoholic drinks, commonly known as soft drinks, and all mineral waters whether natural or artificial.
2. All factories shall be open to the public at all time.
3. Work rooms must be thoroughly cleaned and free from dust and foul air, and shall be well lighted, with no dark corners where rubbish or dust may accumulate.
4. One square foot of glass surface exposed to natural light, unobstructed by buildings or other devices nearer than ten feet, for each ten square feet of floor surface of the work rooms shall be provided. Basements shall not be used as workrooms unless these provisions can be met.
5. All broken bottles and particles of glass must be placed in a metal can, inside the factory, and covered, to prevent flies from gathering thereon. This broken glass must be hauled away from the factory at least once a week, or, if saved as cullet, stored in a bin or room and sprinkled with lime or, in some other way, treated to prevent odor and the breeding of flies.
6. The side walls and ceilings must be smooth and free from crevices, and either painted or covered with a lime solution or otherwise made sweet and clean and free from dust.
7. The floors of the work rooms shall be of impermeable material, unless all filling machines and bottle washing machines are set in metal pans or frames and drained into the sewer, to prevent the floors from becoming wet, sloppy and insanitary.
8. The floors must be swept and scrubbed, mopped or flushed daily, and must be kept clean and free from dust and trash at all times.
9. All doors and windows and other openings to work rooms shall, from the first day of April to the first day of October of each year, be sufficiently screened as to exclude flies and other insects, and all doors shall be fitted with self-closing screens, or protected against flies by such other method as may be approved by the State Dairy and Food Department. At least one fly trap must be provided for each work room; all fly traps to be kept clean and well baited.
10. The syrup or compounding room must be separate from the other work rooms of the building, if possible, above the filling room, and all doors and windows thereto must be screened against flies and other insects.

At least one fly trap must be provided for this room.

The floors and ceilings, walls and shelves must be kept perfectly clean and wherever possible running water must be provided.

All vessels, measures and articles necessary to the proper mixing of syrups must be kept clean and sterile.

All factories must be equipped with at least one sanitary wash stand and provided with soap and towels for the use of the employes thereof; also with at least one sanitary water closet with suitable water supply. All plumbing to be modern, sanitary and connected to the sewer with the proper trap sewer connections. Where outside closets are used and kept in a sanitary condition and lime used in the vaults at least twice a week, the installation of a closet within the factory shall not be compulsory. Solid walls must separate closets from other rooms within the building.
11. A suitable place shall be provided for the employes to change and store their clothing, and no wearing apparel, boots, shoes or other wearing effects not being worn shall be kept or stored in any of the work rooms.

12. Persons affected with tuberculosis or any other communicable disease shall not be employed in or about any establishment where bottled soda waters or mineral waters are manufactured, processed, sold or stored.
13. It shall be unlawful to fill or refill with soda water or mineral water or any other drink or fluid any glass, jar, bottle or any other container in which to sell or vend such drinks unless such glass, jar, bottle or container has been cleaned by soaking for not less than ten minutes in a 3% alkali solution at a temperature of not less than 125° F., which solution must be kept at a density of 3% and entirely renewed at least once each week; and such glass, jar, bottle or container again washed and rinsed in water approved by the Board of Health; or unless such cleaning and soaking shall have been effected to an equal degree of thoroughness and efficiency by resorting to other methods, subject to approval of the Agricultural Commission of Ohio.
14. It shall be unlawful for any person, firm or corporation to fill, re-fill, or possess with intent to sell, any mineral waters, soda waters or any other drink or fluid in a container known as the 'Hutchinson Plunger Bottle,' or any bottle of similar type. The re-use of Crown Caps is also forbidden.
15. It shall be considered misbranding, and consequently in violation of the Pure Food Laws of the State of Ohio, for any person, firm or corporation to fill or re-fill any glass, jar, bottle or any other container with soda water, mineral water or any other drink or fluid, with intent to sell or vend such water, drink or fluid, which bears the label of any other person, firm or corporation, or which has blown in such glass, jar, bottle or other container the name of any person, firm or corporation, without the consent of such other person, firm or corporation.
16. Every glass, jar, bottle, syphon or other container filled with mineral water, carbonated sweet beverages, non-alcoholic drinks commonly known as Pops, Ginger Ale, Root Beers, etc., which is offered for sale, dispensed or sold, shall bear some marks as to its contents and the name and address of the manufacturer or proprietor.

All manufactured waters shall be labeled as either "Artificial" or "Imitation", the choice of words being left to the manufacturer, and applied to the waters compounded by human art and not made in imitation of a natural water, as well as those compounded and made in imitation of a natural water. The words "Artificial" or "Imitation" shall be placed at the top of the label and shall be in letters of a size equal to or greater than other wording on the label, equally as prominent on a uniform background.

All waters which are designated by the same name alone, without any characterizing adjective to tell whether same are natural, imitation or artificial waters, will be considered as natural waters.

17. All waters which, though natural in the beginning, have anything added to them or abstracted from them after they come from their source, shall be labeled either "Artificial" or "Imitation" and the manner in which it has been so altered, shall be clearly stated on the label for the information of the consumer.
18. Waters made in imitation of any Spring and bearing its name with the adjective "Artificial" or "Imitation" as provided for in rule 16 of this code, shall clearly resemble in chemical composition the natural water after which they are named.
19. Inasmuch as mineral waters are largely purchased because of their freedom from contamination, any mineral water showing such contamination shall be considered as adulterated and therefore a violation of the Pure Food Laws of the State of Ohio.

20. All drinks commonly known as pops, ginger ales, and all sweet beverages shall contain not less than 275 grains of sugar in each eight (8) fluid ounces nor more than four-tenths of one per cent of alcohol. The latter is allowable because all flavors, natural or artificial, are and only can be made by the use of alcohol.
21. It shall be unlawful for any person, firm or corporation to manufacture, compound, sell or have in his possession with intent to sell or vend, any mineral water known as Lithia Water unless same shall contain not less than the equivalent in Lithium Salts of 12 grains of Lithium Carbonate per gallon or which equals 1.5 grains in each pint of sixteen (16) fluid ounces.
22. No horses or other animals shall be stabled or kept near or in the building, factory or shop, unless such stable or place is separated by impervious walls, without doors, windows or other openings, from the parts of the building in which soda waters or mineral waters are manufactured or handled.
23. No person or persons shall live or sleep in any factory or building where bottled soda water or mineral water is manufactured, unless the room or rooms in which he, she or they sleep are separated from the work rooms by impervious walls without doors or other openings.
24. It shall be required of dealers to insert all empty bottles into cases with the top or mouth downward in order to prevent the entrance of flies and other insects and the development of dangerous bacteria to threaten the health of the consumers of the product.
25. Within the State of Ohio, food, drink, confectionery or condiments are adulterated (1) if any substance or substances have been mixed with it, so as to lower or depreciate or injuriously affect its quality, strength or purity; (2) if any inferior or cheaper substance or substances have been substituted wholly, or in part, for it; (3) if any valuable or necessary constituent or ingredient has been wholly, or in part, abstracted from it; (4) if it is an imitation of, or is sold under the name of another article; (5) if it consists wholly, or in part, of a diseased, decomposed, putrid, infected, tainted or rotten animal or vegetable substance or article, whether manufactured or not or, in the case of milk, if it is the product of a diseased animal; (6) if it is colored, coated, polished or powdered, whereby damage or inferiority is concealed or if by any means it is made to appear better or of greater value than it really is; (7) if it contains any added substance or ingredient which is poisonous or injurious to health; (8) if, when sold under or by a name recognized in the eighth decennial revision of the United States Pharmacopoeia, or the third edition of the National Formulary, it differs from the standard of strength, quality or purity laid down therein; (9) if, when sold under or by a name not recognized in the eighth decennial revision of the United States Pharmacopoeia, or the third edition of the National Formulary, but is found in some other pharmacopoeia, or other standard work on materia medica, it differs materially from the standard of strength, quality or purity laid down in such work; (10) if the strength, quality or purity falls below the professed standard under which it is sold; (11) if it contains any methyl or wood alcohol. (100 v. 105, sec. 3.)"

Adopted by the Agricultural Commission of Ohio, June 26, 1914.

BUREAU OF DAIRIES.

Herewith is presented my report of the work of the Bureau of Dairies for the year ending November 15th, 1914. This report will prove the value of a systematization of the work, inaugurated by the Agricultural Commission last year and to this extent the duties of the dairy inspectors have been faithfully fulfilled. The details of operation have been in all instances arranged and conducted in line with this policy and every object has been for the proper performance of the work as outlined to the inspectors and accurately reported on by them.

It is urgently recommended that the system of co-operation now prevailing and which has brought splendid results is giving protection to the public from fraudulent and injurious dairy products and in promoting the production of more and better dairy products shall not be halted. The co-operation of the bureau with the dairy department of the Ohio State University has been continued and through the valuable assistance of Professor Oscar Erf, Secretary of the Ohio Dairymen's Association, who has loyally supported the rigid enforcement of all milk and dairy laws, the effect has been materially strengthened. The Ohio Association of Creamery Owners and Managers has been organized, which has for its purpose the advancement and improvement of the dairy production in the state, and to this end it has lent its efforts in co-operation.

Prior to the advent of the closing fiscal year, in order to facilitate the work of dairy and creamery inspection, as well as to make the work efficient and responsible, the dairy inspectors were assigned special districts. The state was divided into four parts and the size and scope of the various districts were determined by the number of dairy and creamery establishments. Railroad facilities were also considered with the view to economy by minimizing the cost per inspection, and by increasing the number of inspections to be made.

The districts were arranged by grouping the counties and were assigned to the inspectors as follows:

INSPECTOR D. B. WAGNER:—

Ashtabula,	Summit,	Sandusky,
Trumbull,	Medina,	Ottawa,
Portage,	Lorain,	Wood,
Geauga,	Erie,	
Lake,	Huron,	
Cuyahoga,	Seneca,	

INSPECTOR C. A. PONTIUS:—

Mahoning,	Wayne,	Morrow,
Columbiana,	Ashland,	Marion,
Stark,	Richland,	Crawford,

Wyandotte,	Auglaize,	Defiance,
Hancock,	Mercer,	Fulton,
Hardin,	Van Wert,	Williams,
Putnam,	Paulding,	Lucas.
Allen,		

INSPECTOR C. K. NIXON:—

Darke,	Fayette,	Hamilton,
Shelby,	Pickaway,	Clermont,
Miami,	Preble,	Brown,
Logan,	Montgomery,	Adams,
Champaign,	Greene,	Scioto,
Union,	Butler,	Pike,
Delaware,	Warren,	Ross,
Clark,	Clinton,	Franklin.
Madison,	Highland,	

INSPECTOR T. C. GAULT:—

Knox,	Belmont,	Perry,
Licking,	Monroe,	Hocking,
Holmes,	Muskingum,	Athens,
Coshocton,	Guernsey,	Vinton,
Tuscarawas,	Noble,	Meigs,
Carroll,	Morgan,	Jackson,
Jefferson,	Washington,	Gallia,
Harrison,	Fairfield,	Lawrence.

There have been published by the bureau of dairies several bulletins and circulars.

Bulletin No. 2, entitled "Questions and Answers Relating to the Administration of the Milk and Dairy Laws of Ohio", is based on the many questions submitted to the department during the past three years. It was designed to the end that the public might become better acquainted with the laws and the questions incidental to their enforcement and interpretation, and to impart knowledge to consumers who should know their rights in protecting themselves from frauds due to unhealthful conditions and unscrupulous competition. This bulletin is in the form of questions and answers and the court decisions are given in all instances to verify the points of law. On account of its simplicity and comprehensiveness in conveying necessary information for the guidance of the dealer, as well as the consumer, of dairy products, this bulletin has proven popular.

Bulletin No. 3, entitled "Ohio Creamery Establishments with Location and Classification", contains a complete and authentic list of the creamery establishments in the state, giving their location, the names of their operators and their classification. The publication of this bulletin was made possible after the first complete inspection of all creameries operating within the state, and has proven highly advantageous and beneficial.

Bulletin No. 4, entitled "Statistics of Ohio Creamery Establishments", contains in tabulated form, by counties, all material statistics relating to the production of dairy products in creamery plants for the year 1913. This information was compiled from the reports of the dairy inspectors and shows the extent of the industries' operation. Much credit is due to proprietors and operators of plants for their willingness to furnish the necessary information. The statistics show that there are a total of 586 plants of which number there are 188 butter creameries, 253 milk plants, 97 cheese factories, 13 condenseries and 53 skimming stations. This indicates that the dairy industries are growing, both in number and quality.

Among the circulars issued during the year was a republication of the Sanitary Regulations for Dairies adopted by the Agricultural Commission. The Sanitary Regulations for Cheese Factories were also published in pamphlet form. A folder entitled "Facts Every Farmer Should Know", containing some pertinent remarks on the handling and marketing of country butter, why renovated butter is made and why the grocer buys country butter when he is unprepared to handle same properly, was issued and published for distribution at exhibits of the Division at the State and County fairs.

Several cuts herewith reproduced show how butter stored in the basement of a country grocery is exposed to dust and dirt. Here is found an appeal to the producer of country butter to give more attention to his dairy products, to sell his cream sweet, if possible, and thus be able to get more remuneration and at less work.

Inspections of creamery establishments throughout the year have been vigilantly prosecuted. A total of 1,413 inspections have been reported, comprising the following classification: Butter creameries, 205; cheese factories, 108; condenseries, 17; skimming stations, 73; milk plants, 352; dairies, 505; cream receiving stations, 22; miscellaneous, 131.

Many improved methods have been adopted as a result of the inspections. The co-operation on the part of proprietors and operators, particularly of creameries, has been marked and it has inured to the benefit of all concerned. There were 734 samples of dairy products taken, and of this number 650 were milk. Much milk, produced from Holstein cows, was found below standard, either in fats or in both fats and solids. The effect of the law providing for a standard of 3% of fats and 12% of total solids, does not make unlawful intent on the part of the seller, a material element. Much literature explaining the laws has been circulated with the view of acquainting the public of such effect, so that it may be enabled to protect itself. Producers and dealers are urged to test the milk from their herds and cows regularly.

One sample of butter obtained was found to contain a nail. No other unusual conditions were evidenced.



Pictures show how country butter was stored in the basement of a grocery, exposing the product to grime, dust and dirt and possibly to rats and mice. This butter will find its way to the renovating plant where it will be rendered and re churned and then placed in direct competition with good butter.

A new departure for promoting the accuracy of cream tests from which the butterfat content and value of cream is determined has been inaugurated during the year. Specifications passed by the United States Bureau of Standards on cream test and butter fat test scales have been adopted by the Agricultural Commission after a careful investigation as to their practicability. The specifications are as follows:

1. The scale shall be provided with a graduated face of at least ten divisions over which the pointer shall play.
2. The pointer must reach to the graduated divisions and shall terminate in a fine point to enable the readings to be made clearly and distinctly.
3. The clear interval between the divisions on the graduated face shall not be less than .05 inch.
4. All scales whose weight indications are changed by an amount greater than one-half the tolerance allowed, when set in any position on a surface making an angle of 3 degrees or approximately 5 per cent with the horizontal, shall be equipped with leveling screws and a device which will indicate when the scale is level. Provided, however, that the scale shall be rebalanced at zero each time its position is altered during the test.
5. The scale shall be so constructed and adjusted that when the pans are released or disturbed they will return to rest at the zero mark.
6. The sensibility reciprocal of cream test and butterfat test scales shall be one-half grain, (30 mgs.)
7. The tolerance either in excess or deficiency when the scale is fully loaded shall be one grain. (60 mgs.)

Scales not conforming to the above specifications and the prescribed tolerances are condemned for repairs. This work has been conducted since the month of August and satisfactory results have been secured. More attention is now given to the testing by proprietors, thereby creating greater efficiency and accuracy. Very few complaints of inaccuracy of cream tests have been received from patrons where the subject of testing has been given attention as a result of this work.

In conclusion, I want to again recommend that a law be enacted providing for the registration of all creameries, cheese factories, condenseries, skimming stations, and milk plants, upon blanks furnished by this office, giving the names and location of plants and the names of the managers or operators and their addresses.

Respectfully submitted,

H. S. MESLOH,
Chief Dairy Inspector.

BUREAU OF OF FOODS.

I have the pleasure to submit herewith the following report for the year ending November 15, 1914. The work of the inspectors shows marked improvement over former years from the fact that it has been systematized to a greater extent, under the auspices of the Agricultural Commission. The inspectors of this bureau have been enabled to accomplish excellent results through the co-operation of the Ohio Butter, Egg and Poultry Producers and Shippers Association, the Ohio Confectioners Association, the Ohio Ice Cream Manufacturers Association, the Ohio Bottlers Association and the Ohio Cannery Association.

We trust that the present system of progress and advancement secured through co-operation will be continued, in order that the public may be protected from adulterated, misbranded, and insanitary food products.

SANITARY INSPECTION.

A campaign of general sanitary inspection was inaugurated early in the spring of the present year. The Agricultural Commission adopted codes for regulating the sanitary conditions of ice cream plants, confectioneries and bottling works, and as a result special attention has been given establishments of this kind. Having succeeded fairly well in checking fraud committed by the adulteration and misbranding of food products, we are now endeavoring to have them produced and sold under better sanitary conditions. With this end in view, over three thousand stores have been visited by inspectors of this bureau, in addition to one hundred and fifty inspections of confectioneries, three hundred and sixty-five inspections of ice cream plants, two hundred and thirty-eight inspections of bakeries, two hundred and twenty-five inspections of meat markets, seventy-six inspections of bottling works, three hundred and ninety-four inspections of hotels and restaurants and eighty-four inspections of produce houses. In the investigation of food establishments, the inspectors found it necessary to recommend many changes in the facilities for handling food products. Some of the most objectional features noted by the inspectors, were a shortage of natural light in ice cream plants, confectioneries, bakeries, etc., and faulty sewer connections in a number of establishments. A few places had horses stabled too near or within the establishments and were not properly separated from the work or store rooms, as required by the sanitary codes. In a few instances, raw and finished food products were found stored in the horse stable and in one instance a retail confectionery was found to have ice cream cones and candy stored in the toilet room. The floors, side-walls and ceilings in many establishments were found to be in a very bad sanitary condition and improperly constructed.

All these objectionable features were abated without a prosecution and without having to serve a written notice with one exception, and that



was in Hamilton, where the proprietor of a restaurant failed to heed the requirements of the sanitary rules and regulations.

The results of this campaign of sanitary inspection shows a marked improvement in most food establishments and greater attention is now given to correct sanitation. Particularly is this noticeable in grocery stores, the fountains of food supply which are objects of special observation and inspection. In this respect, the average grocer is attempting to keep abreast of the times and to measure up to the requirements of thought and investigation along scientific and sanitary lines. He is screening his doors and windows to exclude flies and bugs, covering his bins to exclude dust and dirt, separating foods that might be contaminating in odor and flavor to the other kinds, and is taking into consideration the importance of keeping his store free from rats, mice, bugs, flies, ants, dogs and cats. However, he considers that necessary preparations for proper preservation of food is of the greatest importance and is therefore gradually installing modern fixtures.

The up-to-date grocer realizes that his store must be kept in a sanitary condition, by providing clean and substantial refrigerators, clean scales and sanitary counters, and clean sanitary containers for all food products. By so doing, the grocer co-operates with this bureau and merits the respect and confidence of the general public, and is enabled to enjoy the increased profits which his progressive methods produces.

EGGS.

It is needless to say that during the last three years there has been a marked improvement in the Ohio egg, as well as in the facilities for the transportation and storage of eggs. Within this time, the food bureau has issued bulletins and circulars relative to the care of the commercial egg. It has also established an educational exhibit at county fairs and poultry exhibits, showing eggs in the different stages of incubation, and has prosecuted farmers, merchants and hucksters for the sale of eggs unfit for food purposes.

By reason of these activities, the egg producer is raising more thorough-bred poultry and marketing a larger and better product of eggs. Yet there are thousands of dozens of eggs of inferior quality sold in the state of Ohio. This is an age of progress and the farmer producing eggs of superior quality is seeking a better market than that afforded by the produce dealers of the state. He does not want to sell his superior product of eggs in competition with the farmer who is careless and negligent with his produce, and who markets inferior eggs.

Yet in our markets of today, this is the condition prevailing and it is certainly a great factor in preventing the improvement desired for the Ohio egg. This bureau has always advocated the sale of eggs by either a "loss-off" or a "quality" basis, and at a meeting of the Ohio Butter, Egg and Poultry Producers and Shippers Association, held on October 1st, a committee was appointed to confer with this department for the pur-



Educational Exhibit at County Fairs.

pose of co-operating with it in conducting an educational campaign for establishing a trade barrier against the sale of bad eggs.

At the joint meeting of the National Butter and Egg Shippers Association, and the federal and state food officials, held in Chicago, October 26th, the egg question was taken up and ably discussed by Mr. R. M. Allen, Dairy and Food Commissioner of Kentucky, and by members of the Association. While nothing new developed on this important question, it was the general opinion that an improvement in the commercial egg would not be accomplished by education alone. Education is an important factor, but there is another influence required and that is for the produce dealer to erect a trade barrier against bad eggs. It seems to be the general sentiment and the desire of the members of the National Butter and Egg Shippers Association for the Food Commissioners of the various states to get after those produce dealers with a "club", who make it a business to hamper and hinder the improvement of the commercial egg by buying any kind of an egg regardless of quality.

During the three years that this department has been making an effort to improve the Ohio egg, many times have I been in a produce house or grocery store when a farmer brought in a basket or crate of excellent eggs and the dealer made the remark, "Those are certainly fine eggs", and the farmer would make the reply, "yes, but you don't pay any more for them than you do for eggs of inferior quality. You claim that you will make a difference of two cents per dozen, why don't you practice what you preach?"

I have seen this incident happen so many times that I am positive it will take more than education alone to attain the desired improvement in the Ohio egg. The department can reach a certain stage of improvement through the channels of education, it may issue circulars and bulletins and hold educational exhibits and demonstrations, it may place a treatise on the care of the commercial egg in every public school and all will be for naught so long as the price paid by the dealer for large, clean, fresh eggs continues the same as for small, dirty or rotten eggs.

We all know that the egg business is a side line with the farmer and if he is not rewarded for the extra expense, time and trouble required in producing a more palatable egg, he will continue to produce an egg of inferior quality. We can enforce the food laws and make wholesale prosecutions against the sale of bad eggs, but what will be the result? The farmer is not compelled to produce eggs for market, consequently he will produce something he deems to be of more profit and less trouble. If you want to further improve the Ohio egg, in conjunction with the educational campaign, the dealers of this state must create an incentive for quality by rewarding the producer with a pecuniary consideration or place a ban on the inferior egg.

Respectfully submitted,

SEPTIMUS MAWER,
Chief Food Inspector.

REPORT ON INSPECTION OF OHIO CANNERIES.

The canning and packing of foods in Ohio has become a very important industry. There were at the beginning of the present year one hundred and seventy concerns, engaged in the canning, packing and preserving of foods. There have been added to this number nine new plants, eight of the old plants have discontinued business, five have moved into new quarters and two were burned. Of the latter, one of them located at Tiptecanoe City, has been re-built and now occupies an excellent new building of reinforced concrete, provided throughout with modern equipment. The other, located at Akron, is attempting to run in the patched-up old quarters. Of those occupying new quarters the following deserve special mention:

The Lippincott Company, of Cincinnati, and the H. C. Cristy Company, of Cleveland, have moved from very ordinary to magnificent new quarters, constructed of reinforced concrete and brick, equipped with the most modern sanitary arrangements and conveniences. The William Edwards Company, of Madison, and the H. J. Heintz Company, of Bowling Green, both new plants, are splendid brick and concrete structures. All four of these plants were built this year and are noteworthy examples of the most up-to-date types of canning and packing establishments.

I had thought also of making a special report concerning what we may term the "laggards", but as there is to be given a descriptive report of each plant in our next year's work, I shall not attempt to describe the laggards at this time. Sufficient to say, many of these are dropping out. Of the eight plants marked "discontinued" in this report, four were on the indifferent list last year, and not one of those on the "excellent" list have discontinued business. This fact is significant.

In the two years that I have been inspecting canning establishments, there has been a very gratifying improvement on the whole in the sanitary conditions in and about the plants, some have improved the old plants and others have moved into new and better quarters. Though all have made some improvement, a few have lagged behind and are not keeping pace with the more progressive concerns.

I have made a complete and careful sanitary inspection of all factories listed below, having visited each one, one or more times, nearly all of them twice, the most of them from three to five times and have carefully weighed all the conditions presented when they were inspected and have classified the plants without favor or prejudice to the best of my ability. In listing the factories, the name of the Post Office, given after the word "Branch" is the address of the main office of which the plant is a branch. After the word "Station" likewise is given the Post Office address of the main office and the station is the place where the raw

material is received and partly prepared for canning before it is sent to the main factory to be finished. There are a number of pea stations where peas are received on the vine, taken out of the pod and cleaned and then sent to the factory to be canned. These are not reported, as the pea season is very short and one inspector cannot reach the stations and give the factories proper attention.

In classifying the factories for this report, "E" means excellent, "G", good, "F", fair, "I", indifferent. The factories and classifications are as follows:

<i>County.</i>	<i>Name and Location.</i>	<i>Rating.</i>
Allen	H. L. Foltz..... Lima.	E
Ashtabula	H. H. Ferry..... Kingsville.	F
	The Cummins Canning Co..... Conneaut.	E
	The Cummins Canning Co..... Ashtabula.	E
	The Lake Erie Canning Co..... Rock Creek.	F
Auglaize	The Home Canning Co..... Wapakoneta.	E
Belmont	The E. C. Flacus Co..... Barnesville.	G
Brown	Russelville Packing Co..... Russellville.	G
	Hamersville Canning Co..... Hamersville.	G
Butler	The T. A. Snyder Preserve Co..... Hamilton.	G
	The Butler County Canning Co..... Monroe.	G
	The Mauds Canning Co..... Mauds.	E
Champaign	The Urbana Canning Co..... Urbana.	G
	S. J. Barger..... Urbana, R. R. No. 2.	I
	The McCoy Canning Co..... Woodstock, (Branch) Urbana.	F
	The McCoy Canning Co..... Urbana.	G
Clark	The McCoy Canning Co..... New Carlisle, (Branch) Urbana.	G
	C. E. Rankin..... Springfield.	I
	Woerber Mustard Manufacturing Co..... Springfield.	E
	J. F. Kirchwehm..... Springfield.	G

EXECUTIVE DOCUMENTS.

<i>County.</i>	<i>Name and Location.</i>	<i>Rating.</i>
Clermont	The Loveland Canning Co..... Loveland.	Idle.
	The A. W. Coulter Canning Co..... Amelia.	G
	J. W. Lowe..... Amelia.	F
	The Williamsburg Canning Co..... Williamsburg.	G
	The Newtonville Canning Co..... Newtonville.	F
	G. H. Eveland..... Miamiville.	G
	Clinton County Canning Co..... Clarksville.	Discontinued.
Clinton	C. E. Bates Co..... Blanchester.	G
	A. A. Linton..... Clarksville.	G
	H. G. Bates..... Wilmington.	G
	C. W. Swain..... Sabina.	F
	Baugh Batten and Baugh..... Clarksville.	F
	Frank C. Gibbon Co..... Homeworth.	Idle.
	Columbiana	
Cuyahoga	Higgins-Babcock-Hurd Co. Cleveland.	G
	H. C. Christy Co..... Cleveland.	F
	The Wm. Edwards Co..... Cleveland.	E
	The Cleveland Juice Co..... Cleveland.	G
	The Zipp Manufacturing Co..... Cleveland.	G
	The Miller Everhard Co..... Cleveland.	G
	The W. T. Hyde Co..... Cleveland.	Discontinued.
	The Cleveland Kraut and Pickle Co.....	F
	Cottage Preserve and Pickle Co..... Chagrin Falls.	E
	The Ohio Pickling Co..... Independence.	F
	The Rigler-Milde-Below Co. Cleveland.	G
	Dade	
	The Sanitary Canning Co..... Hollandsburg.	E
	The J. Weller Co..... Greenville.	F

<i>County.</i>	<i>Name and Location.</i>	<i>Rating.</i>
Erie	Lutz & Shramm..... Sandusky.	G
Fairfield	The Fairfield Canning Co..... Amanda.	G
	C. E. Sears & Co..... Stoutsville, (Branch) Circleville.	G
	Lockville Canning Co..... Lockville.	Discontinued.
Fayette	C. E. Sears & Co..... Washington C. H., (Branch) Circleville.	F
	Fayette Canning Co..... Washington C. H.	G
Franklin	C. E. Sears & Co..... Canal Winchester, (Branch) Circleville.	G
	Plain City Co..... Plain City.	G
	The Livingston Seed Co..... Columbus.	G
Fulton	The Fayette Canning Co..... Fayette.	G
Gallia	The McMechen Preserve Co..... Gallipolis, (Station) Wheeling, W. Va.	G
Geauga	Hatch Cider and Preserve Co..... Geauga Lake.	F
Greene	The Eavy Packing Co..... Xenia.	F
	Yellow Springs Canning Co..... Yellow Springs.	F
	Spring Valley Canning Co..... Spring Valley.	G
	Fargo Mineral Springs Co..... Xenia.	G
Hamilton	The Wm. Spencer's Sons Co..... Cincinnati.	F
	The Sheriff Preserve Co..... Cincinnati.	G
	The Lippencot Co..... Cincinnati.	E
	The Abattoir Co..... Cincinnati.	G
	The M. H. Alexander Co..... Cincinnati.	G
	The T. A. Snyder Preserve Co..... Cincinnati.	Discontinued.
	The Kroger Grocery & Baking Co..... Cincinnati.	G
	The A. W. Coulter Canning Co..... Mt. Washington.	E
	Rogge & Co..... Cincinnati.	F
	The International Fruit Products Co..... Cincinnati.	G

<i>County.</i>	<i>Name and Location.</i>	<i>Rating.</i>
	E. R. Steel.....	G
	Cincinnati.	
	Rheinstrom Bros.	E
	Cincinnati.	
Highland	The Leesburgh Canning Co.....	F
	Leesburgh.	
	Baker & Devoss Packing Co.....	Discontinued.
	Greenfield.	
Huron	The W. C. Pressing Canning Co.....	E
	Norwalk.	
	The Bellevue Kraut and Pickle Co.....	G
	Bellevue.	
Jackson	The Alma Canning Co.....	G
	Welston.	
Lake	The William Edwards Co.....	E
	Madison, (Branch) Cleveland.....	
	The Gypsum Canning Co.....	Idle.
	Willoughby.	
Licking	C. E. Sears & Co.....	Discontinued
	Summit, (Branch) Circleville.	
Logan	The J. N. Johnston.....	G
	Bellefontaine.	
	The J. M. Abraham Co.....	G
	Bellefontaine.	
	The DeGraff Canning Co.....	G
	DeGraff.	
Lorain	The Elyria Canning Co.....	E
	Elyria.	
	William Goldie	G
	Elyria.	
Lucas	A. G. Lehman Co.....	I
	Holland, (Station) Pittsburgh. Pa.	
	The Marleau Canning Co.....	F
	East Toledo.	
	The N. H. Weller Co.....	G
	Toledo.	
	The Harbauer Co.....	E
	Toledo.	
	The Harbauer Co.....	G
	East Toledo, (Branch) Toledo.	
	The Harbauer Co.....	F
	Maumee, (Station) Toledo.	
	The Ludlaw-Robson Co.....	G
	Toledo.	
Madison	The Darby Canning Co.....	E
	West Jefferson.	
	C. E. Sears & Co.....	F
	London, (Branch) Circleville.	
	G. W. Southard Canning Co.....	Idle.
	Mt. Sterling.	
Marion	The Morral Canning Co.....	G
	Morral.	

<i>County.</i>	<i>Name and Location.</i>	<i>Rating.</i>
Meigs	The Meigs Canning Co..... Middleport.	Discontinued.
	The Racine Canning Co..... Racine.	G
	The Rutland Canning Co..... Rutland.	G
	Ellis W. Hysell..... Pomeroy.	G
	South Rutland Canning Co..... Pomeroy.	Idle.
	E. E. Ashley..... Letart Falls.	F
	Letart Falls.	
Mercer	Crampton & Son..... Celina.	F
	The Pioneer Canning Co..... St. Henry.	E
	The Van Wert Packing Co..... Mendon.	F
	The Burkettsville Canning Co..... Burkettsville.	I
	Burkettsville.	
Miami	Strickler Bros. Tippecanoe City.	G
	H. V. Shroyer..... Tippecanoe City.	G
	Tippecanoe City.	
Montgomery	The Ritty Canning Co..... Dayton.	G
Morrow	The Cardington Canning Co..... Cardington.	Idle.
Ottawa	The Gypsum Canning Co..... Port Clinton.	G
	The J. Weller Co..... Oak Harbor.	F
	The Harbauer Co..... Curtice, (Station) Toledo.	G
	The Harbauer Co..... Perrysburg, (Station) Toledo.	G
	The Harbauer Co..... Walbridge, (Station) Toledo.	G
	The Harbauer Co..... Elmore, (Station) Toledo.	G
	Elmore, (Station) Toledo.	
	Elmore, (Station) Toledo.	
	Elmore, (Station) Toledo.	
Paulding	The Payne Mfg. and Canning Co..... Payne.	F
	A. Middeagh Antwerp.	I
	Antwerp.	
Pickaway	The Esmeralda Canning Co..... Circleville.	I
	The Winorr Canning Co..... Circleville.	E
	C. E. Sears & Co..... Circleville.	F
	The Scioto Canning Co..... Ashville.	E
	Ashville.	

EXECUTIVE DOCUMENTS.

<i>County.</i>	<i>Name and Location</i>	<i>Rating.</i>
	W. D. Sprouse.....	G
	Orient.	
	W. C. Pressing Canning Co.....	F
	New Holland.	
Preble	Eaton Canning Co.....	G
	Eaton.	
	Camden Canning Co.....	G
	Camden.	
Putnam	Buckeye Canning Co.....	F
	Continental.	
	Max Winkleman	G
	Ottoville.	
Ross	W. S. Moore.....	G
	Bainbridge.	
	The Winorr Canning Co.....	G
	Bainbridge, (Branch) Circleville.....	
	The Sears & Nichols Co.....	E
	Chillicothe.	
	The Sears & Nichols Co.....	G
	Frankfort, (Branch) Chillicothe.	
Sandusky	Fremont Grape Juice Co.....	G
	Fremont.	
	The Fremont Kraut Co.....	G
	Fremont.	
	The Clyde Kraut Co.....	G
	Clyde.	
	The Gypsum Canning Co.....	E
	Bellevue.	
Seneca	The Fremont Kraut Co.....	F
	Greensprings, (Branch) Fremont.	
Shelby	J. L. Lawhead.....	E
	Jackson Center.	
Stark	C. Schmucker	F
	Canton.	
	The Canton Canning Co.....	G
	Canton.	
	Schmucker & Miller.....	I
	Louisville.	
	Geo. J. William.....	G
	New Berlin.	
Summit	Caruthers-Terry Co.	I
	Akron.	
Trumble	The Standard Maple Products Co.....	G
	Warren.	
	The Scudder-Crane Co.....	Discontinued.
	Warren.	
	The Buckeye Cider and Jelly Works.....	I
	Nutwood.	
Tuscarawas	The E. C. Flacus Co.....	Idle.
	New Philadelphia.	
	Sandyville Cannery	G
	Sandyville.	

<i>County.</i>	<i>Name and Location.</i>	<i>Rating.</i>
Van Wert	The Stoops Packing Co..... Van Wert.	G
	The Willshire Canning Co..... Willshire.	F
Warren	The Mason Canning Co..... Mason.	G
	The J. M. Hayner Canning Co..... South Lebanon.	G
	D. Heidenheimer	E
	South Lebanon.	
	The Waynesville Canning Co..... Waynesville.	E
	The Morrow Canning Co..... Morrow.	G
	The Dodds Canning Co..... Lebanon.	G
	The Valley Packing Co..... Lebanon.	E
	The Bamer Packing Co..... Lebanon.	G
	The Miami Canning Co..... Lebanon.	G
	The Tom Corwin Co..... Lebanon.	F
	W. D. Hufford Canning Co..... Lebanon.	I
	The South Lebanon Canning Co..... South Lebanon.	I
Washington	C. S. Olinger..... Red Lion.	G
	The Dana Canned Goods Co..... Belpre.	F
	The Dana Canned Goods Co..... Waterford.	Discontinued.
Wayne	The New Wooster Preserve Co..... Wooster.	E
	J. M. Smucker..... Orrville.	G
Wood	The McMechen Preserve Co..... Bowling Green, (Branch) Wheeling, W. Va.	G
	The Clyde Kraut Co..... Weston, (Branch) Clyde.	E
	H. J. Heintz Co..... Bowling Green, (Branch) Pittsburgh, Pa.	E
	The Harbauer Co..... Custer, (Station) Toledo.	G

COMPLIANCE WITH NEW RULES.

Two new rules added to the sanitary code at the beginning of this year, the one requiring all belts and conveyors coming in contact

with the foods to run in clear, running water or over a spray, the other, all cans to be washed before being filled, met with general compliance. At first, a few could not see the necessity of washing the cans and thought it would be a hardship to do so, but after finding that this could be done very simply and cheaply, there was no further objection. It needed only a trial to prove the value of the requirement. Many packers have since expressed surprise at the amount of dirt removed, which is really not surprising when the conditions of manufacturing, storing and shipping are taken into consideration. While, of course, these things are usually done with the utmost care, yet in spite of this there is need for cleaning and sterilization. For in the manufacture of tin-plate from which the cans are made, the coating is done by dipping the prepared sheets into molten tin and afterwards covering them with oil which adheres more or less to the plates, even though in finishing they are passed through rolls and wiped off with sawdust and brushes. The plate is handled many times in sorting, trimming and packing and then rehandled both by hand and machinery through numerous processes when manufactured into cans. Then the cans are stored in the warehouse or packed into cars and shipped to the canner, who handles them again in storing them in his warehouse.

In all this handling, shipping and storing, there are many chances for dust, dirt, bugs, spiders and even mice, to find their way into the cans. Realizing this condition, the Food Bureau of the Ohio Dairy and Food division was the first and is at present the only, food department to require the washing of cans. It is gratifying to be able to state that during the first year this rule has been in force only three Ohio packers have packed food in unwashed cans. In accomplishing these results, it was not necessary in a single instance to resort to prosecution. We find the canners of Ohio are not only willing, but anxious, to conform to any reasonable requirement. In fact we understand that many of the rules were suggested originally by the canners themselves.

Believing that a more accurate system of inspection and report is desirable, I wish to recommend that the rules of the Sanitary Code, as revised and adopted by the Agricultural Commission, be printed with this report in bulletin form.

The rules for the Sanitary Code have been revised and adopted by the Agricultural Commission, by virtue of which adoption, they become law under Section 1177-12:

"The Agricultural Commission shall make such uniform rules and regulations as may be necessary for the enforcement of the food, drug, dairy and sanitary laws of this state."

The score card system has also been adopted which will greatly improve the inspectors' report and give the packer a better understanding of the conditions as seen and estimated by the inspector.

The following are the Revised Rules and Score Card with explanation of manner of inspection and style of report :

SANITARY CODE FOR CANNING AND PACKING FACTORIES, REVISED
BY THE AGRICULTURAL COMMISSION OF OHIO, DAIRY
AND FOOD DIVISION.

1. The floors of all work rooms shall be of impermeable material which can be flushed or washed clean with water and proper sewage connections shall be provided to prevent the floors or ground below from becoming wet, sloppy and insanitary.

2. Garbage and all waste material shall be removed daily from the building and grounds and the plant must be kept in a clean and sanitary condition at all times.

3. All machinery shall be cleaned daily and kept in a clean and sanitary condition.

4. Separate toilet and wash rooms shall be provided for each sex, completely separated from the work rooms; these must be properly lighted and ventilated and facilities shall be provided whereby the employees can be kept clean and tidy. When modern plumbing and sewerage systems are not available, the closet shall be at least one hundred feet from the building, room or place used for the preparation or canning of food, be screened against flies and properly disinfected.

5. Employees shall use the utmost care in keeping the toilets in a sanitary condition. Rags and insoluble materials must not be thrown into the toilet.

6. Persons affected with tuberculosis or any communicable disease shall not be employed in or about any canning or packing establishment.

7. All factory employees shall be clean in person at all times and shall wear clean and washable clothing. Employees shall not smoke or chew tobacco while at work.

8. Male employees, who assist in preparing foods for canning, shall wear clean, wash, oversuits. Female employees who assist in preparing food for canning shall wear clean dresses or aprons made of washable fabrics and also clean, washable caps over the hair.

9. All corn, tomatoes and other products, in preparation for canning, shall be thoroughly washed before going to the cutting machines or peeling tables and all cans and other containers must be washed and sterilized before being filled.

10. All carrying belts and chains coming in contact with food, shall return in clean, running water or over a spray.

SCORE CARD.

AGRICULTURAL COMMISSION OF OHIO—DAIRY AND FOOD
DIVISION.

SANITARY INSPECTION OF CANNERIES.

No. Date.....19....
 Place inspected
 Name..... Location.....
 Principal Plant, Branch or Station.....
 Address of Owner.....
 Products

		Score					
		Perfect	Allowed				
			1st	2nd	3rd	4th	5th
Rule			Inspection				
1	The floors of all work rooms shall be of impermeable material, which can be flushed or washed clean with water and proper sewage connections shall be provided to prevent the floors or ground below from becoming wet, sloppy and insanitary.	10					
2	Garbage and all waste material shall be removed daily from the building and grounds and the plant must be kept in a clean and sanitary condition at all times.	10					
3	All machinery shall be cleaned daily and kept in a clean and sanitary condition.	10					
4	Separate toilet and wash rooms shall be provided for each sex, completely separated from the work rooms, these must be properly lighted and ventilated and facilities shall be provided whereby the employees can be kept clean and tidy. When modern plumbing and sewerage systems are not available, the closet shall be at least 100 feet from the building, room or place used for the preparation or canning of food, be screened against flies and properly disinfected.	10					
5	Employees shall use the utmost care in keeping the toilets in a sanitary condition. Rags and insoluble materials must not be thrown into the toilet.	5					
6	Persons affected with tuberculosis or any communicable disease shall not be employed in or about any canning or packing establishment.	10					
7	All factory employees shall be clean in person at all times and shall wear clean and washable clothing. Employees shall not smoke or chew tobacco, while at work.	10					
8	Male employees, who assist in preparing foods for canning, shall wear clean, wash, over-suits. Female employees, who assist in preparing food for canning, shall wear clean dresses or aprons, made of washable fabrics and also clean washable caps over the hair.	10					
9	All corn, tomatoes and other products, in preparation for canning, shall be thoroughly washed before going to the cutting machines or peeling tables and all cans and other containers must be washed and sterilized before being filled.	20					
10	All carrying belts and chains, coming in contact with the food, shall return in clean, running water or over a spray.	5					
Total		100					

SCORE CARD.

DESCRIPTION OF PLANTS AND REMARKS.

Inspector.

The score card will be in triplicate form and at each visit of the inspector the packer shall receive a copy, the food bureau a copy and the inspector will retain a copy.

Each rule has its own value and any deviation from perfect compliance or efficiency will be noted by the inspector, opposite the rule so affected in the column provided for each visit. At the end of the season, a bulletin will be published containing the inspector's report to the Commissioner in Charge, based on the scoring given. In the report each factory will receive special mention and its condition, rating and score will be shown after the following plan:

..... Company. An extensive line of food products are manufactured and packed at this plant, the building is of brick, steel, glass and concrete. Splendid light is afforded by the "saw-tooth" roof and the plant is well ventilated. Sanitary inside toilets are provided, as are wash and rest rooms, satisfactory dining rooms are at the disposal of the employees. A somewhat elaborate and costly plant has been installed to care for the factory waste. The refuse is carried through the sewer to settling basins where it is chemically treated. The solid matter is dried and made into stock food and the liquid is pumped odorless and clear, over the hill away from the plant.

Rating Excellent. Score 98.

This may seem to represent excellent conditions, but it is a true description of a factory at present in operation. But all, we are sorry to say, are not like this one. For example the following:

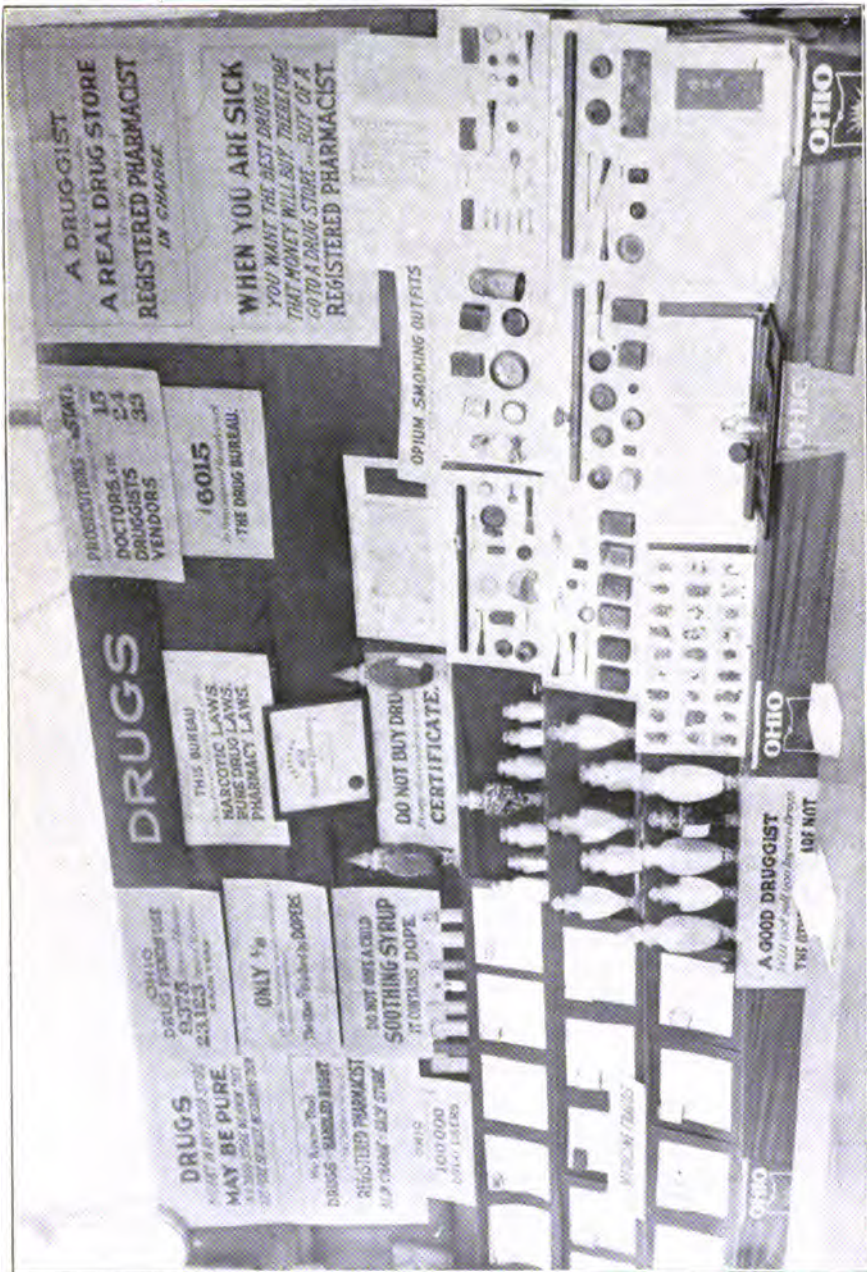
..... Company. This firm packs corn and tomatoes under very unsatisfactory conditions. Their building is old and in bad condition, the floor is of boards, full of holes and cracks, making it impossible to cleanse the place. The toilets are poor, in the yard, and within a few feet of the work room. No wash rooms are provided. The sewage is carried in an open trough 80 feet and dumped into swale, where it is allowed to remain and rot. This plant cannot operate longer on account of these unspeakable conditions.

Rating Bad. Score 20.

These two were chosen purposely to show the contrast and also to show that conditions will be reported hereafter just as they are found.

Respectfully,

LYMAN G. BINGHAM,
Inspector of Canneries.



County Fair Exhibit.

BUREAU OF DRUGS.

The year ending November 15th, 1914, has been one of unusual activity for the bureau of drugs. The police powers of the state, relating to drugs, have for the first time in the state's history been included under one head or department. The wisdom of this consolidation is apparent when a brief review of the bureau's work and the results secured is made. The work, including as it does, the inspection of the drug stocks of the pharmacist, physician, department store, street vender, etc., the sanitary inspection of all places where drugs are produced, stored, manufactured or sold, investigations covering the pharmacy laws of the state and the detection and prosecution of violators of the narcotic law, has been entered into with a desire to rid the drug and medical profession of a class of men who are deliberate and wilful violators of the law. The violation of the drug laws is truly a menace to the health of the people of the state. The man who will deliberately sell an adulterated drug, or the man who will attempt to handle, manufacture, or sell drugs, without proper training, is not one whit better than the man who sells narcotic drugs knowing that they will destroy all of man's mental, moral and physical being.

THE DRUG INSPECTION WORK.

The drug inspection work has proceeded in a manner very similar to that of other years, the inspectors having made eighteen hundred and ninety inspections, and taken four hundred and forty-four samples on which the department based seventy-seven prosecutions. This shows a percentage of prosecutions to samples taken of seventeen per cent. A comparison with the past eight years may be made as follows:

<i>Year.</i>	<i>Samples taken.</i>	<i>Prosecutions.</i>	<i>Percentage.</i>
1907	149	15	10%
1908	154	00	00%
1909	273	16	6%
1910	141	16	11%
1911	64	7	11%
1912	66	6	10%
1913	183	29	16%
1914	444	77	17%

The existing condition of drug stocks in this state is very satisfactory. Only two samples taken in the past year were found to contain any wood or denatured alcohol. The cause of much of the trouble of former years, namely, that of using old and obsolete formulas in manufacturing U. S. P. and N. F. products, seems to have been entirely eliminated. The druggist is now buying preparations impossible for him to make from the

manufacturers who can assure him that their products are as represented. The frequent submission by the druggist to this department of samples so purchased indicates a desire on the part of the druggist to be strictly in accordance with the drug law. The department found a few samples of fluid extracts and tinctures, required by the Pharmacopœa to be assayed, that showed a wide variation from the standard in alkaloidal strength and in such instances a thorough investigation usually revealed the fact that the druggist had manufactured them without any attempt at an assay. As the action of these drugs depends upon the action of the alkaloids contained therein, it is absolutely necessary that such assays be made and the drug be brought to a definite standard.

INSPECTION OF PHYSICIANS' DRUGS.

The bureau has made seven hundred and fifty-seven inspections of the drug stocks of physicians. Only a few samples have been taken, but they were invariably found to be adulterated or misbranded. The work of the bureau along these lines has been done by the regular drug inspectors, using whatever time they could spare from the regular inspection of drug stores. During the last four months, they have reported all such inspections on a special blank. The physician has been erroneously under the impression that the object of the law was to prosecute the physician found with misbranded or adulterated drugs in his possession. This led to much misunderstanding which has been removed, usually by the inspector explaining to the physician that the intent of the law was to compel the dealer to furnish to the physician a standard quality of drugs or preparations instead of an inferior quality under a standard label or name. That the law and the work under it is producing good results, is becoming more and more evident. Many physicians, upon purchasing a preparation from the supply house, submit a sample to the department for analysis, especially if the desired results have not been secured. Other physicians, who were in the habit of buying narcotics, especially morphine tablets, in five to ten thousand lots, are now buying in very small quantities as they do not wish to have the inspector report them as having on hand an enormous quantity of narcotics. When the law is explained to them and they are shown the necessity of obtaining samples from the stock on their shelves, they see the advantage to be gained and invariably give the inspector their whole-hearted support. A majority of the physicians are now very careful in their buying and are demanding from the supply houses drug preparations that comply strictly with the standards fixed by law.

DEPARTMENT STORE STOCKS.

Our inspectors have found it necessary to keep a close watch upon department store stocks and many violations are detected in these stores.

The attempt to use the drug department of such stores as an advertisement has led them to buy inferior goods in many instances, because they can sell such drug products below the price of standard goods. Many department store managers are imposed upon by unscrupulous salesmen, who take advantage of their ignorance of the drug laws and standards and sell them products that cannot lawfully be sold in this state. Some grocery and general stores that sell many of the well-known proprietary remedies add drugs in an attempt to work as close to the restrictions of the law as possible. The Five and Ten Cent Stores are the worst violators of the drug laws. The inspectors have found them violating the law, regardless of warnings or prosecutions, and we deem it necessary to prosecute in all cases arising in such stores. It is only by this means that we can prevent them from making frequent and flagrant violations of the law. As in the case of department stores, their only desire seems to be to purchase as cheaply as possible without regard to quality or standards.

PHARMACY LAW VIOLATORS.

The inspectors have been busy since the organization of the bureau in checking up the certificates of the registered pharmacists in the stores. In this manner, they have been able to locate many stores apparently in charge of pharmacists, but which upon closer investigation proved to have a certificate displayed by some person not employed in the store; in fact, they did not have a registered pharmacist in charge at any time. Then again, by this method, many stores have been found which were owned or managed by a pharmacist but in which the pharmacist does not spend sufficient time to be considered as in full and actual charge. The worst class of pharmacy law violators found, are in the grocery and general stores. This class of dealers attempt to sell everything in the drug line and frequently do have as complete a stock as in the drug store. Our inspectors have found iodoform, Fowler's solution aspirin, caustic potash, permanganate of potash, carbolic acid, cyanide of potash, etc., in general stores and our pharmacy work has been centered as much as possible upon this class of violations. The weakness of the pharmacy law is here clearly demonstrated. The point to which a general store may proceed in the drug business and not violate the pharmacy law, or the point at which the general store stops and the drug store begins is, to say the least, very indefinite. In every prosecution brought for such violations, the argument is made before the court that the article sold was a household remedy and as such the dealer had a perfect right to make the sale. Still another class of violators is the general stores not employing a pharmacist and not displaying a drug sign, but which advertise a drug department. Our inspectors have spent much time on these stores with good results.

SANITARY INSPECTION.

Insanitary conditions in drug stores are due mainly to the improper surroundings of the store or the building, rather than to any direct causes that may arise in the store. The inspectors have paid particular attention to soda fountains and to the manufacture and storage of ice cream and syrups, and they have been able to correct many such insanitary conditions. On the whole, the sanitary results gained in drug stores in this state may be considered excellent.

RULINGS.

The rulings of the department have been published recently in pamphlet form. Those affecting the drug trade are as follows:

Ruling No. 7, Aqua Ammonia; No. 8, Alcohol; No. 12, Use of the term "Sweet Oil"; No. 18, Compounds in drug products; No. 19, Whiskey and No. 20, Codein.

These rulings have been made at various times as occasion demanded. The manner in which they are now issued relieves the department of a vast amount of correspondence.

BULLETINS AND CIRCULARS.

The drug laws of the state have also been compiled and published in complete pamphlet form. In this booklet are included the poison laws of the state, as they are of special interest to the drug trade. An edition of the circular, "What's In a Name", has been issued during the past year. This circular has been revised and enlarged with each issue and is attracting much attention, judging from the requests for copies received from practically every state in the Union. Bulletin No. 1, entitled "Question and Answers Relating to the Administration of the Drug Laws of Ohio", treats of the problems arising in the drug store. It consists of fifty questions and answers and the section of law covering the point is given in each instance. This is a handy reference work for the busy druggist who can, at a glance, arrive at the desired point of law with but little effort. Another bulletin now in the hands of the printer is a complete and exhaustive analysis of cigarettes, cigarette papers, tobaccos and cigars. This bulletin will be ready for distribution by January 1st, 1915.

ADVANTAGES OF CONCENTRATION OF DRUG WORK.

The results secured during the past year prove the wisdom of the consolidation of the drug work of the state under one head. Numerous prosecutions have been made and the fines assessed have been larger than ever before. But even this has not been so important as the great mass of petty violations and abuses of the law corrected without the necessity

of resorting to prosecution. In this alone, if for nothing else, can be seen the advantage gained by placing the enforcement of the narcotic and pharmacy laws under the police powers of the Dairy and Food Division. The inspector can in one visit investigate all the conditions existing, make such recommendations as may be necessary and has the power to see that they are enforced. With several changes that should be made in the pharmacy and narcotic laws, Ohio can be placed in the foremost rank in regard to the drug laws and their enforcement.

ACKNOWLEDGEMENT.

Whatever success has been attained by the drug bureau during the past year is due largely to the untiring efforts of the inspectors who have not limited their working hours to the traditional eight, to the help rendered by the pharmaceutical journals and the public press, and to the assistance given by the State Pharmaceutical Association, the Board of Pharmacy and the State Medical Board and various City Police departments.

Respectfully,

W. R. HOWER,
Chief Drug Inspector.



Narcotic Samples Siezed by Inspectors.

NARCOTIC INVESTIGATIONS.

The most absorbing feature, perhaps, of the division's work during the year relates to the narcotic investigations of the bureau of drugs. The General Assembly in 1913 enacted what is widely known as the Duffy law, having for its object restriction of the sale and administering of narcotics. It went into effect in August of the same year and has been vigorously enforced by the bureau of drugs insofar as its limited force of inspectors would admit. With only two narcotic inspectors and a general inspector to co-operate with them, it is impossible to secure adequate results, yet the bureau has made good progress and has accomplished results that have attracted nation-wide attention.

The following is a report of the narcotic work from August 8, 1913, to November 15, 1914, inclusive, submitted by Narcotic Inspector A. C. Johnston:

The General Assembly has seen fit to amend the drug and narcotic laws of the state and has supplemented them by the Duffy law. This law deals with the sale of all narcotics and was passed with the view of decreasing the number of addicts to their use.

Many people of all classes become slaves to the drug habit, and the ways of acquiring it are many and varied. In a measure, some doctors are responsible as well as are the unscrupulous peddlers who resort to devious methods in order to add one more victim to their list of wrecked humanity.

The legitimate doctor and druggist heartily co-operate with this department in enforcing the law and fully realize the importance of taking steps to decrease the already great number of unfortunates.

In some instances, narcotics are a godsend to suffering humanity, but when handled by an unscrupulous person, they are a menace. It might be appropriate to add that any doctor acting in good faith need have no fears in prescribing for his patients when they are afflicted with any incurable disease. This applies to the druggist as well, when called upon to fill these prescriptions and this department has at all times considered the intent of all the parties concerned.

That the United States is fast becoming a drug using nation is evidenced by the following figures:

The estimated population of Ohio for 1913 was approximately 4,965,169 and of the United States 95,545,336. This would give Ohio approximately 5% of the population of the United States and if 5% of the drugs imported are used in Ohio we are facing some appalling conditions.

Since 1860, there has been an increase in the importations of opium and its alkaloids of 351% against an increase of 133% in population.

Four hundred thousand pounds of opium entered the United States annually for the past ten years. Reliable authorities estimate about 12½% of this quantity is needed for medicinal purposes.

Three hundred thousand pounds of morphine is imported annually and it is estimated 80% is used by habitues.

Austria-Hungary, with about one-half the population of the United States, consumes about one one-hundredth the amount of opium, and Germany, with its 60,000,000 people, consumes about 17,000 pounds annually. Italy, with a population of 33,000,000, uses approximately 6,000 pounds annually.

The cocaine situation is equally as alarming for in 1912 there was imported into the United States 1,179,540 pounds of coca leaves; reducing this to doses would practically make 311,000,000 doses.

Basing our figures on the estimated population of Ohio and on the percentage of narcotics coming into this country at 5% for Ohio, then we consume 23,123 pounds of opium and 58,977 pounds of coca leaves.

Reliable authorities estimate 80% of these two products are used illegitimately and if so, Ohio uses in excess of legitimate practices approximately 18,498 pounds of opium and 47,171 pounds of coca leaves.

Confining ourselves to the average dose of opium and its alkaloids, we are confronted with the astonishing number of 2,308,700,000 doses imported into Ohio annually.

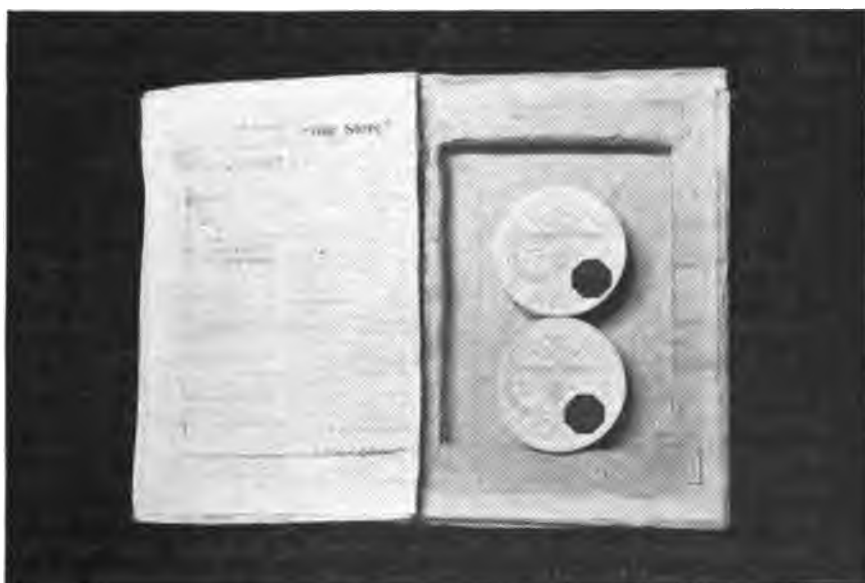
Practically all the larger cities of the state as well as some of the smaller towns have been visited and prosecutions made. No arrests have been made where doctors prescribed any amount of these drugs to persons afflicted with incurable diseases. The greater part of the druggists who were caught in the net sold direct to inspectors or to some one employed to enter a store in an attempt to buy drugs. Little trouble has been experienced with the practicing dentist, although a couple of prosecutions resulted from our investigations. Our greatest trouble lies with the street venders who are invariably noted characters with the police and at different penitentiaries. These men employ the shrewdest methods imaginable in order to vend their opium, morphine, cocaine or heroin and at times it requires many days and nights to apprehend them. They apparently have their regular routes, but in order to keep from being apprehended arrange with their customers an entirely new system at practically every delivery they make.

In some instances, users are arrested in order to apprehend the parties selling to them. This is not done until after all other methods fail. Many cures have been effected and in most cases these were permanent thereby proving to our satisfaction that it is only a question of the man or woman having a sincere desire to throw off the horrible shackles which the drug habit has woven around them.

Since August 8th, 1914, one hundred and eleven arrests have been made and \$6,425.00 of fines assessed. Of this number, thirty-two were



Empty Morphine Bottles Recovered from One Narcotic User.



A Magazine With Center Cut Out and Used for Sending Cocaine Through the Mails.

doctors, thirty were druggists and forty-nine were street venders and others who were arrested during our raids upon opium and cocaine parties. All classes of people were given jail sentences, but in most instances these people, professional and others, were dealt with according to the seriousness of their offense.

The practice of some doctors of prescribing morphine for every pain is indeed a serious one and sometimes we find the doctors themselves addicted to the drug habit as well as those who are unfortunate enough to consult them for medicinal aid.

Upon acquiring the drug habit, the person so addicted will in most cases do anything to satisfy their awful cravings and to this can be traced many cases of theft, as well as even more serious charges. Among the most noticeable features of our work was the report from the Municipal Court of Cleveland, that during our activities in that city the criminal court cases decreased 40%.

Practically all noted police characters are users of drugs, but this does not necessarily imply that all users are police characters, though it has been our experience that many who resort to their use become criminals although they may have contracted the habit at first in anticipation of getting temporary relief or pleasure. It may be well to add some reasons why some men and women are so persistent in trying to sell cocaine, opium, heroin and morphine. In some instances, we have known of morphine being sold at \$10.00 a dram when the actual cost is only 75c. Cocaine when sold by street venders often brings prices ranging from \$7.00 to \$10.00 a dram when the actual cost is only 60c. In selling cocaine, the peddler frequently mixes it with acetanilide, which costs 40c a pound and in appearance can hardly be distinguished from real cocaine. This enables him to vend it at enormous profits.

During the course of our raids, some interesting evidence was obtained.

In Toledo, a barber was found who used a hypodermic made from a medicine dropper and was convicted of administering cocaine and morphine injections to boys who frequented his place. In a Chinese chop suey restaurant, an opium outfit was found, which was the most valuable outfit we have confiscated. This outfit was of teakwood, inlaid with pearl and cost probably \$150.00. In this place we found a large quantity of silverware and silk goods including many pairs of silk hose, the presumption being that thieves had exchanged the articles for the privilege of smoking a pill. In Columbus, a man was found living in a barn-loft who had consumed five hundred drams of morphine during two years and who afterwards was treated in a Columbus hospital and entirely cured. A man and his wife were found guilty of administering injections to women of the segregated districts at from 25c to 50c each. At Cincinnati, in an opium raid, an addicted mother was found with her child, about eight years old, and the child of a neighbor lying on the bed

in a room used by the smokers. A physician, engaged in the drug business, was arrested for sending cocaine through the mails in a hollowed-out magazine. At Dayton, a druggist and his clerk were arrested for selling morphine to various people, including inmates of the Soldiers' Home. At Greenville, we learned of a physician who was supplying a family with morphine, in which the mother was in turn giving it to her children, aged fourteen months, three and six years respectively, in such quantities that the youngest died from morphine poisoning. The two remaining children were placed in the Children's Home, where they are undergoing treatment for the morphine habit. These are only a few of the cases which have come under our observation and are cited in order to show something of the magnitude and seriousness of the narcotic evil.

Several state legislatures have taken steps for restricting the sale of these drugs, as well as the National Congress in which the Harrison Bill is now pending. Since Ohio has taken the lead in an effort to do something for the drug victim, as well as for protecting the future generations, many inquiries have come from all sections of the country. The question looming up strongest before all connected with the narcotic work is, "does the good that comes from the legitimate use of these drugs exceed the harm they do?"

So much has been unearthed that it is evident that the state could not do a more humanitarian act than provide a suitable institution for the treatment and cure of these unfortunates and thereby provide means for decreasing the number of drug victims and for giving happiness to homes where now only misery exists.

It only requires the slightest association for one to appreciate the terrible suffering of the "dope" victims and if legislation were passed for their care and treatment, the supporters of the bill would have the lasting gratitude of all people, including not only the drug victims themselves, but their relatives and all upon whom devolves the duty of enforcing the narcotic law. Under the guise of giving them treatment, a few unscrupulous doctors will take the last money these victims possess and for this reason we believe the state should make provision for their treatment. If this is done, the narcotic law can be more successfully enforced.

Very respectfully,

A. C. JOHNSTON,
Narcotic Inspector.

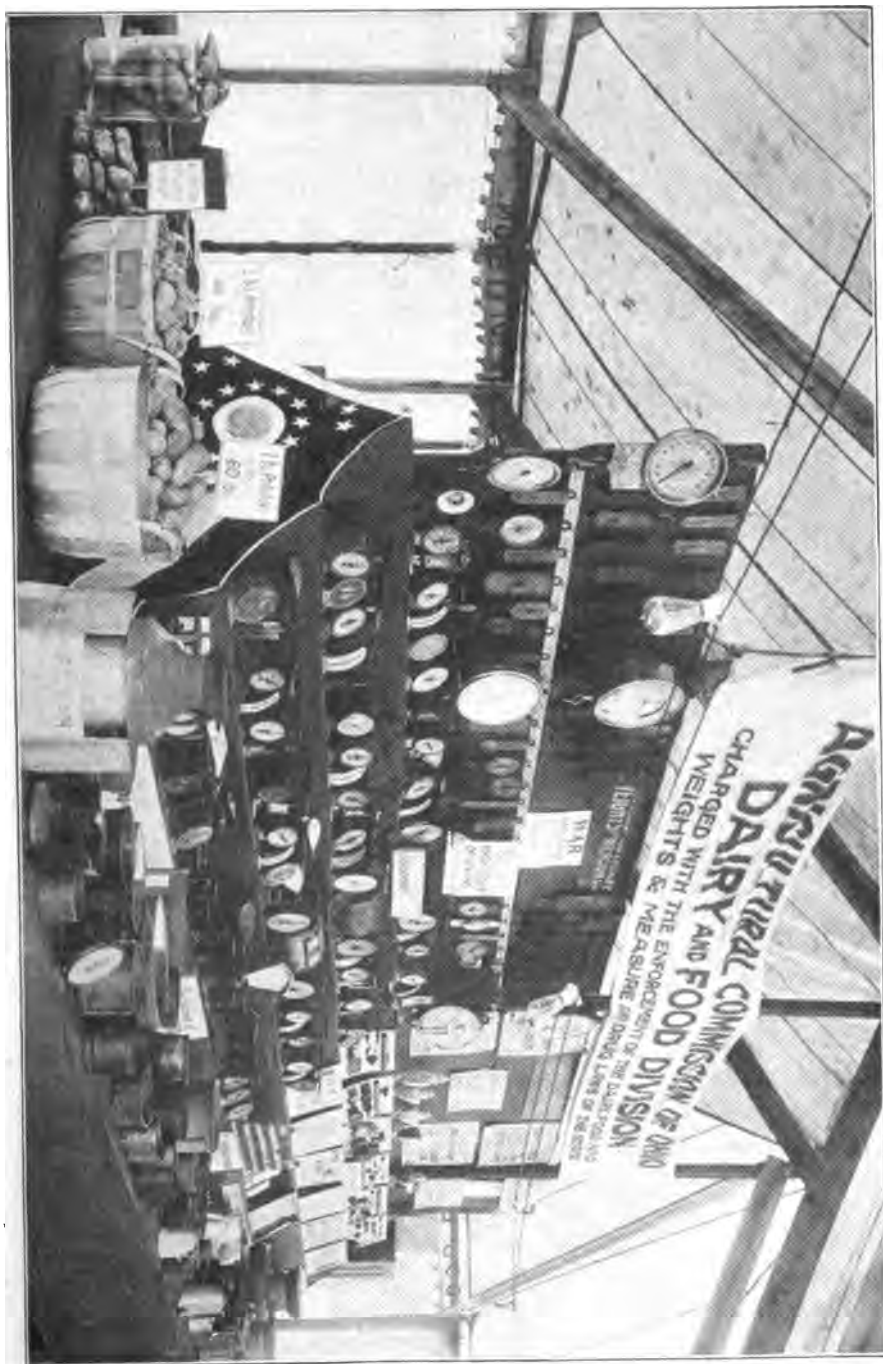
BUREAU OF WEIGHTS AND MEASURES.

I respectfully submit herewith the third annual report of the Bureau of Weights and Measures for the period from November 15th, 1913, to November 15th, 1914, inclusive. Excellent progress has been made in the weights and measures work in the State of Ohio. Weighing and measuring apparatus is now more carefully inspected and tested than ever before with the result that conditions are greatly improved. The work is taken seriously by merchants and consumers, as there is now hardly a commodity that is not bought or sold by weight or measure; furthermore, as inaccuracies of these quantities affect the poorer classes, the ones who can least afford it, and in towns and cities where a thorough and systematic inspection has been performed, it has proven of enormous benefit to the honest dealers and the purchasing public; indeed, the housewives have helped considerably in bringing about this state of affairs. Merchants, since being convinced that the department means to be as fair towards them as to the purchasing public, are cheerfully complying with the law. They now realize that the policy of having their scales and measures tested and sealed, and of giving their customers all they pay for is a good one, and that dealing fairly is certain to help them in competing for business. The newspapers of the state have also contributed materially to our achievements and I feel indebted to them for their valuable space. The enlightened attitude of the public today is, to my mind, directly traceable to the press. The work of the Weights and Measures' officials intimately concerns the public in a number of ways, and the newspapers have been quick to grasp this fact. Their past courtesies are appreciated and the wish here expressed is that they will deal generously with us in the future. This report, it will be seen, differs radically from the former ones, and is divided into two parts. Part "One" contains the review of the work done by the office force; Part "Two" presents the work done by the county and city sealers.

PART "ONE."

During the past year many inspections have been made by officers from this department. The most of these inspections were made upon requests from merchants owing to the fact that there was no official in their county. In counties and cities where no officials had been appointed, the proper authorities were appealed to and in most instances appointments were made, but there are a few counties in which there is no sealer, namely, Athens, Fairfield, Gallia, Henry, Hocking, Jackson, Pike and Wyandotte.

In some instances it was necessary to threaten mandamus proceedings for failure to appoint a sealer. These same officials who claimed that this work was unnecessary or that they did not have any funds



Weights and Measures Exhibit at Fairs.

with which to buy the necessary equipment to do the work are now the most enthusiastic. The results have been most gratifying and great good has been accomplished. But there remains much more to be done if the public is to receive the protection which the law is intended to afford. After going out and instructing city and county sealers in their duties, we find that after performing their annual inspection and sealing of scales and measures, they make no further inspection to ascertain whether the laws are being observed, with the result that the only protection against short weight and measure is that afforded by the visits of the state officers to these cities or towns. One of the hardest problems the state department has to deal with is to get competent men. Some of the appointing powers fail to realize the importance of this work, and appoint men who are totally unfit for the position. In other instances where capable men are appointed, the salary is fixed at such a ridiculous amount that the sealer soon realizes that he cannot do the work for the salary paid and seeks some other avocation and then only works as sealer or inspector as a side line. As there are so many forms of trickery and fraud practised today, it is necessary that the weights and measures officials be on guard at all times to detect the latest schemes. Those who have visited the state fair and the several county fairs where the state department made exhibits of faulty scales and measures fitted with all kinds of devices for defrauding the public, have stood in amazement and offered their hearty support in behalf of weight and measure inspection. (On the opposite page will be found a photograph of the exhibit shown at the state and county fairs.

The following is descriptive of one of the most important shortages that came to our attention this year and which I feel should be mentioned: In this case a stock buyer had weighed and shipped twenty-two head of cattle to a packing house in Columbus. The cattle were weighed on a scale which was considered correct as most of the stock that was bought and sold in that part of the county was weighed over this scale, although it had never been tested and sealed by an official sealer. After the twenty-two cattle were weighed and shipped, they were re-weighed on a sealed scale and found to be 4125 pounds short of the weight given by the shipper, and average of $187\frac{1}{2}$ pounds to the head. These cattle were purchased at $7\frac{1}{4}$ cents per pound, making a difference of \$299.06. This aroused suspicion and the state department was appealed to. The department made investigation and found that the farmer's stock scale was wrong, and it was condemned. That is only one instance of which to make mention. It might be stated that in former years, prior to the election of S. E. Strode as Dairy and Food Commissioner, nothing had been done in the department of Weights and Measures in this state and farmers were compelled to weigh their stock and other merchandise over certain scales designated by the buyer or shipper and this was found in many instances to be to the detriment of the seller. But since the estab-

lishment of the state department, and the various county departments, every farmer and merchant has an opportunity to have his scales tested and sealed without any expense to him and are therefore greatly benefitted by this work.

Mention must be made of the enforcement of Section 13128, General Code. This section provides that all articles put up or packed and sold by weight must be marked with the net weight thereof in pounds and fractions thereof. Our attention was particularly attracted by numerous complaints against millers and butchers. It was found that millers in selling flour would quote prices at so much per barrel, 196 pounds, put up in $\frac{1}{16}$, $\frac{1}{8}$, $\frac{1}{4}$, and $\frac{1}{2}$ barrel sacks, or in $12\frac{1}{4}$, $24\frac{1}{2}$, 49 and 98 pound sacks. In re-weighing, they were found to be short from eight ounces to four and one-half pounds per sack. Butchers, in putting up lard and sausage in tin pails and cans would always weigh the pail or can in as lard and charge the total weight at the price of the lard, the cans weighing from six ounces to three and one-half pounds. After a thorough investigation this was found to be a common practise among millers and butchers; the packers contended that it cost more to put up flour, feed and lard in small packages and that they must be paid for their time, sacks and pails. This was a matter for them to determine and they were informed that each package of flour, feed and lard must bear the net weight. After a systematic campaign along this line, most packers were willing to comply with the law and in a few instances it was found necessary to bring prosecutions. In general, the law is being complied with throughout the state and has found favor in the eyes of those to whom its provisions apply. One very good thing it does and for the first time in the history of Ohio, is that it puts competition on an equal basis. The enforcement of this statute alone has been an enormous saving to the general buying public.

BERRY BASKETS.

In the sale of berries and other small fruits, much good has been accomplished through the amendment of Sec. 13108 General Code. This section provides:

"Whoever, in selling berries or other small fruits, uses a measure other than the standard dry measure half-bushel or an aliquot part thereof shall be fined not less than ten dollars nor more than fifty dollars. (103 v. 64; 91 v. 134, Sec: 1.)"

Under the old law, it was possible to sell berries in any size basket and the consumer never knew whether he was buying a full quart or three-fourths of a quart. This campaign was most trying and thousands upon thousands of baskets were confiscated and destroyed. Berries would be shipped from other states in short baskets and dealers were compelled to dump them and put them in standard baskets and they soon tired of doing this. When commission-men found that the department of

Weights and Measures were determined on protecting the public and that the people should receive what they paid for, they began to notify growers that no short baskets of berries would be accepted. This, together with notices from the state department to all basket manufacturers, had the desired effect and I am safe in saying that during the year 1914, the use of short baskets was reduced to a minimum. This is a source of great satisfaction and I feel that no department in the state so guards the housewife as does this department. Since the department has been organized it has saved the consumers of Ohio thousands of dollars and has materially reduced the high cost of living.

IMPORTANT ACCOMPLISHMENTS.

An important work performed during the past year should be mentioned. First, we refer to the inspection of gas meter provers. Section 9338, General Code provides:

"All gas companies supplying the public with illuminating gas, either natural or artificial, which are not supplied with such apparatus, forthwith shall provide for their use a meter prover, the holder of which must contain not less than five feet, such prover to be tested, stamped, and sealed by the state sealer of weights and measures, at the Ohio state university, before being used; and a photometer for the comparison of the lights of gases and candles by means of a disk. The failure on the part of any person, firm or corporation supplying the public with illuminating gas to comply with the provisions of this section shall cause said person, firm or corporation to forfeit and pay to the state not less than twenty-five dollars nor more than one hundred dollars, to be recovered upon the complaint of any such consumer, in the name of the state, before any court of competent jurisdiction. (R. S. Sec. 3561.)"

Up until 1914, very little attention had been paid to this provision and only such meter provers were tested as were sent in to the State Sealer's office voluntarily. Complaints from consumers of gas were as numerous as from the use of other weighing and measuring apparatus. After some thought of how best to proceed with this work, it was decided to confer with the Public Utilities Commission and this Commission very kindly furnished us with a list of all the gas companies in the state. With this information at hand, a circular letter was issued as follows:

"DEAR SIR:—

We are desirous to know how many cities, towns and villages you supply with natural gas. How many meter provers, if any, you have in use, where same are located, also state whether one prover is used for more than one station and whether the same has been tested and sealed as required by Section 9338 of the General Code. If prover has been sealed, please give number and date.

Trusting that you will give me this information promptly, I am,

Respectfully yours,

CHIEF INSPECTOR."

Reports were received from most of the gas companies. In a few instances the reports showed that the meter provers had been tested and sealed. Others were willing to submit the provers for testing and those that did not have meter provers were willing to procure them and to comply with the law. The department regards the work done along this line as being of the greatest importance as both the gas companies and the general public are thereby protected. Since our last report, November 15, 1913, sixty gas meter provers have been tested and sealed.

The work of testing of cream test and butter fat test scales is co-operative with the bureau of dairy inspection, whose inspectors visit each creamery establishment and are charged with the enforcement of the laws relating to the Babcock test. On account of the close connection cream test scales have with the Babcock test, this work is adaptable to that of the investigation of the methods used in the Babcock test. As was anticipated, the work resulted in a great improvement in the making of these tests, the influence having been apparent through every stage of the testing of cream. Many scales thought to be accurate were found to be so sluggish and insensitive as to cause a large variation and this condition has been a great source of dissatisfaction among the producers and the creameries. Although this branch of the work has only been in operation since August 1st, 1914, yet a total of two hundred and thirty tests have been made. Of this number, 71 were sealed, 96 were condemned as unfit for future use and 63 were condemned for repairs. These figures show the importance of this work. The farmers and creamery operators are more than pleased with the results.

A compilation of the work done in eighteen cities and seventy-eight counties follows. Eight counties have failed to appoint sealers, viz., Athens, Fairfield, Gallia, Henry, Hocking, Jackson, Pike and Wyandotte, and two counties failed to make a report, viz., Allen and Lawrence.

On hundred and nine prosecutions were made in all parts of the state.

SUMMARY REPORT.

Number of scales sealed	89,787
Number of scales adjusted and ordered repaired.....	10,262
Number of scales condemned	4,312
Number of weights sealed	143,013
Number of weights adjusted and repaired.....	5,168
Number of weights condemned	2,931
Number of measuring pumps sealed.....	3,667
Number of measuring pumps adjusted and repaired.....	534
Number of measuring pumps condemned	80
Number of liquid measures sealed	17,722
Number of liquid measures condemned	10,060
Number of dry measures sealed	73,746
Number of dry measures condemned	4,806

Number of milk bottles sealed	1,865,280
Number of milk bottles condemned	4,800
Number of counter tacks sealed	10,160
Number of counter tacks condemned	1,124
Number of yard sticks sealed	3,135
Number of yard sticks condemned	512
Number of tape measures sealed	248
Number of tape measures condemned	116
Number of berry baskets sealed	1,410,037
Number of berry baskets condemned	346,039
Number of barrels, boxes, crates and baskets sealed.....	6,122
Number of barrels, boxes, crates and baskets condemned	3,143
Number of milk, oil and ice cream cans sealed	30,354
Number of milk, oil and ice cream cans condemned	2,170
Number of cream test scales sealed	71
Number of cream test scales adjusted and repaired.....	63
Number of cream test scales condemned	96
Number of gas meter provers sealed	60
Number of gas meter provers condemned	3
Number of miscellaneous sealed	2,697
Number of miscellaneous condemned	433
Grand total of all weighing and measuring devices sealed.....	3,656,099
Grand total of all weighing and measuring devices adjusted and repaired	16,027
Grand total of all weighing and measuring devices condemned.....	380,625
Grand total of all weighing and measuring devices inspected.....	4,052,751

From the above tables, it will be seen that the figures for 1914 are greater in every branch of the work. More equipment was tested and sealed, more equipment was confiscated and condemned, and more prosecutions were made. This is certainly an accurate indication of what is being done and speaks well of the activity among city and county sealers. We are, of course, well pleased with the results. The figures plainly show the need that exists for this department. Were any leeway given, it would not be long before conditions would be worse than ever. Frequent inspections have a tendency to keep the merchants and dealers complying with the law. This insures housewives and the general buying public against dishonest practices, which formerly contributed no small share to the high cost of living. The most encouraging part of it all is that there has been no let-up in activity. On the contrary, the longer one is associated with the weights and measures work, the more it becomes apparent that the real solution of the weights and measures problem is to have accurate weighing and measuring devices and efficient inspectors in the field. This concludes the account of our work in the field.

The object has been to point out the various problems we have encountered. Only the more important are mentioned. To chronicle the daily details of the work would serve no useful purpose. We feel that those who will read these pages will entertain a better idea of the weights

and measures work, and will realize that the officials of the department are doing every thing possible to better conditions. The continued co-operation of the public is invited; if granted, it will enable us to accomplish more and better work, and we sincerely hope it will be given.

OFFICE WORK.

In relating what has been done in the field, we must not overlook mentioning that the work in the office has kept pace with the field inspection. Correspondence has greatly increased. Questions of all kinds were submitted, as well as numerous reports and complaints of violations in every part of the state. Many of these questions were of such a complex nature that it was necessary to call on the Attorney General's office for advice. The literature that the department issues is fully appreciated, judging from the large number of requests received for copies. Pending a decision in the Supreme Court on the sales-by-weight law, much more work has been required and the results have not been as satisfactory as they would had the law not been attacked.

Section 7965, General Code, provides that the Agricultural Commission of Ohio shall be State Sealer and shall make, promulgate and enforce such rules and regulations as may be necessary to the prompt and effective enforcement of the weights and measures laws of this state, and in order that there may be uniformity in the proper types of the instruments used, it was necessary to issue a pamphlet of specifications and tolerances, with which all weighing and measuring apparatus must comply before it can be legally used in this state. These specifications and tolerances are similar to those adopted by the National Conference of Weights and Measures officials at a meeting held at the Bureau of Standards, Washington, D. C., May, 1914. This pamphlet was distributed among all the city and county sealers, also to manufacturers of weighing and measuring apparatus. The issuing of this pamphlet has had a desirable effect and all city and county sealers are now working along the same lines. Manufacturers and users of weighing and measuring apparatus of all kinds are almost daily sending it to the office for inspection. Every one having business with the department is treated with consideration and courtesy. Taken all in all, it would seem as if the weights and measures work had at last come into its own.

Respectfully submitted,

FRED C. ALBRECHT,
Chief Inspector.

PART "TWO."

STATISTICS OF INSPECTION.

The presentation of the following tables represents just what the various city and county sealers have done. An examination of the tables will bring to light the fact that sealers do not confine their efforts to any one kind of equipment, but endeavor to test and seal at frequent intervals all kinds of weighing and measuring apparatus used in their respective districts. This vigilance means much to the consumer, because where no inspection exists the grossest kind of injustice is perpetrated upon the honest merchant and the general buying public. Where faulty apparatus is found, it is either repaired or confiscated and replaced by accurate standards.

The constant replacement of good for the bad standards tends to insure the purchasers all that they pay for. In this way, the department feels that it is doing something towards reducing the high cost of living, or, at least, in getting for the consumers all that is due them, which they have not always received in the past.

The tables are arranged in an alphabetical manner. The returns from the counties are given first and those of the city departments follow. It has been thought advisable not to make public the names of those found guilty of violating the provisions of the Weights and Measures laws. This information is filed at the office for reference.

ADAMS COUNTY.

T. A. HOWELL, *Sealer*. West Union.

SCALES:	<i>Adjusted and Ordered</i>		
	<i>Sealed.</i>	<i>Repaired.</i>	<i>Condemned.</i>
Computing	84	....	....
Counter	80	....	....
Spring	6	....	10
Wagon	68	5	1
Hopper	1	....	....
Platform	114	3	1
Weights	1,000	51	2
Measuring pumps	24	4	....
Tapes, counter tacks and yards measures	74	....	5
Milk, oil and ice cream cans	204	....	10
Totals	1,655	63	29

ALLEN COUNTY.

J. J. COLLISON, *Sealer*. Lima.

No Report.

ASHLAND COUNTY.

E. R. BALLIET, *Sealer*. Ashland.

SCALES:	<i>Adjusted and Ordered</i>		
	<i>Sealed.</i>	<i>Repaired.</i>	<i>Condemned.</i>
Computing	98	7	1
Counter	21	....	3
Spring	19	....	14
Beam	52	3	2
Wagon	35	1	1
Hopper	10	....	....
Platform	59	3	....
Penny-in-slot	5	....	1
Suspension	5	....	2
Weights	694	....	17
Milk bottles	500	....	....
Measuring pumps	45	10	....
Tapes, counter tacks and yard measures.....	89	....	....
Berry boxes	200	....	....
Milk, oil and ice cream cans	114	....	4
<hr/>			
Totals exclusive of milk Bottles and Berry Boxes	1,246	24	45

ASHTABULA COUNTY.

M. A. AUSTIN, *Sealer*. Jefferson.

SCALES:	<i>Adjusted and Ordered</i>		
	<i>Sealed.</i>	<i>Repaired.</i>	<i>Condemned.</i>
Computing	128	11	1
Counter	324	3	8
Spring	266	....	28
Beam	2	....	....
Wagon	88	18	1
Hopper	1	....	....
Platform	778	8	10
Suspension	87	....	1
Weights	3,379	....	62
Milk bottles	45,104	....	....
Measuring pumps	25	....	....
Barrels, boxes, crates and baskets.....	240	....	....
Berry boxes	630,900	....	....
Liquid measures	294	....	15
Total, exclusive of milk bottles and berry baskets	5,612	40	126

ATHENS COUNTY.

No Sealer and no work done.

EXECUTIVE DOCUMENTS.

AUGLAIZE COUNTY.

FRANK SCHAFFER, *Scaler*. Wapakoneta.

SCALES:	<i>Adjusted and Ordered</i>		
	<i>Scaled.</i>	<i>Repaired.</i>	<i>Condemned.</i>
Computing	34	4	1
Counter	45	6	3
Spring	34	....	8
Wagon	27	3	....
Hopper	2	....	....
Platform	37	7	1
Dormant	2	2	....
Suspension	2	....	....
Weights	407	32	11
Milk bottles	2,161	....	....
Measuring pumps	17	5	....
Barrels, boxes, crates and baskets	30	....	....
Liquid measures	138	....	20
Total, exclusive of milk bottles.....	775	59	44 .

BELMONT COUNTY.

WM. J. CAMPBELL *Scaler*. Bellaire.

SCALES:	<i>Adjusted and Ordered</i>		
	<i>Scaled.</i>	<i>Repaired.</i>	<i>Condemned.</i>
Computing	310	87	3
Counter	44	17	2
Spring	70	13	4
Beam	28	10	2
Wagon	18	13	2
Hopper	11	8	....
Platform	106	26	2
Suspension scales	16	6	4
Dormant	8	1	....
Weights	620	36	32
Dry measure	40	....	22
Milk bottles	432	....	86
Measuring pumps	43	13	....
Tapes, counter tacks and yards	180	....	14
Milk, oil and ice cream cans	12	....	....
Total, exclusive of berry boxes and milk bottles	1,506	230	87

BROWN COUNTY.

GUY WEAVER, *Sealer*. Georgetown.

SCALES:	<i>Adjusted and Ordered</i>		
	<i>Sealed.</i>	<i>Repaired.</i>	<i>Condemned.</i>
Computing	100	36	....
Counter	109	12	3
Spring	12	....	4
Beam	6	....	1
Wagon	60	6	3
Platform	38	2	1
Dormant	25	3	2
Penny-in-slot	1	....	....
Weights	290	83	5
Dry measure	40	....	....
Milk bottles	780	....	19
Measuring pumps	8	6	....
Tapes, counter tacks and yards.....	79	....	26
Liquid measures	300	....	32
Total, exclusive of milk bottles.....	1,068	148	77

BUTLER COUNTY.

R. H. SCHULER, *Sealer*. Hamilton.

(One month's work)

SCALES:	<i>Adjusted and Ordered</i>		
	<i>Sealed.</i>	<i>Repaired.</i>	<i>Condemned.</i>
Computing	34	13	1
Counter	10	7	4
Spring	4	2	3
Beam	4	2	....
Platform	6	1	....
Penny-in-slot .....	....	2	....
Suspension	1	....	....
Weights	42	....	4
Dry measure	28	....	59
Liquid measures	127	....	17
Total	256	27	88

CARROLL COUNTY.

T. M. HEMMING, *Sealer*. Carrollton.

SCALES:	<i>Adjusted and Ordered</i>		
	<i>Sealed.</i>	<i>Repaired.</i>	<i>Condemned.</i>
Computing	66	20	3
Counter	121	39	5
Spring	35	12	4
Beam	4	....	....
Wagon	53	18	3
Platform	172	4	1
Weights	615	....	17
Measuring pumps	25	....	4
Tapes, counter tacks and yards.....	79	....	2
Berry boxes	200	....	....
Miscellaneous	13	....	....
Liquid measures	126	....	80
Total, exclusive of berry boxes.....	1,309	93	119

CHAMPAIGN COUNTY.

J. W. WOODWARD, *Sealer*. Urbana.

SCALES:	<i>Adjusted and Ordered</i>		
	<i>Sealed.</i>	<i>Repaired.</i>	<i>Condemned.</i>
Computing	66	7	4
Counter	80	13	6
Spring	23	13	3
Beam	4	....	....
Wagon	70	66	20
Hopper	5	....	....
Platform	87	22	9
Railroad track	1	....	....
Penny-in-slot	7	....	....
Weights	540	295	....
Milk bottles	600	....	1
Measuring pumps	11	....	....
Tapes, counter tacks and yards.....	12	....	....
Milk, oil and ice cream cans.....	40	....	....
Total, exclusive of milk bottles.....	946	416	43

CLARK COUNTY.

FRANK HUFFMAN, *Sealer*. Springfield.

SCALES:	<i>Adjusted and Ordered</i>		
	<i>Sealed.</i>	<i>Repaired.</i>	<i>Condemned.</i>
Computing	123	12	....
Counter	116	....	14
Spring	36	....	12
Beam	2	....	....
Wagon	197	38	....
Hopper	8	1	....
Platform	103	....	4
Dormant	14	....	....
Weights	1,596	....	1
Milk bottles	65,000	....	....
Measuring pumps	32	1	....
Tapes, counter tacks and yards.....	14	....	....
Berry boxes	1,200	....	128
Milk, oil and ice cream cans	32	....	1
Liquid measures	306	....	....
<hr/>			
Total exclusive of milk bottles and berry boxes	2,579	52	32

CLERMONT COUNTY.

C. M. LONG, *Sealer*. Batavia.

SCALES:	<i>Adjusted and Ordered</i>		
	<i>Sealed.</i>	<i>Repaired.</i>	<i>Condemned.</i>
Computing	30	6	....
Counter	125	8	....
Beam	20	....	....
Wagon	38	3	....
Platform	35	12	....
Milk bottles	50	....	....
Measuring pumps	25	1	....
Berry boxes	25	....	40
Tapes, counter tacks and yard measures	80	....	20
<hr/>			
Total, exclusive of milk bottles and berry boxes	353	30	20

EXECUTIVE DOCUMENTS.

CLINTON COUNTY.

ALFRED OSBORN, *Sealer*. Wilmington.

SCALES:	<i>Adjusted and Ordered</i>		
	<i>Sealed.</i>	<i>Repaired.</i>	<i>Condemned.</i>
Computing	48	3	1
Counter	105	5	2
Spring	46	....	15
Platform	96	14	1
Dormant	12	....	1
Weights	719	....	4
Measuring pumps.....	28	12	....
Milk, oil and ice cream cans	430	....	3
Miscellaneous	41	....	1
Total	1,525	34	28

COLUMBIANA COUNTY.

W. H. BARR, *Sealer*. Lisbon.

SCALES:	<i>Adjusted. and Ordered</i>		
	<i>Sealed.</i>	<i>Repaired.</i>	<i>Condemned.</i>
Computing	195	29	11
Counter	320	28	4
Spring	232	32	30
Beam	3	....	17
Wagon	122	20	16
Hopper	13	3	....
Platform	368	21	6
Dormant	37	8	....
Penny-in-slot .....	....	5	2
Suspension	177	1	....
Weights	1,170	60	40
Milk bottles	311	....	40
Measuring pumps	86	24	11
Tapes, counter tacks and yards.....	199	....	114
Barrels, boxes, crates and baskets.....	126	....	127
Berry boxes	180,000	....	195,00
Milk, oil and ice cream cans	51	....	10
Liquid measures	280	....	21
Total, exclusive of milk bottles and berry boxes	3,379	231	409

COSHOCOTON COUNTY.

WM. MAXWELL, *Sealer*. Coshocot.

SCALES:	<i>Adjusted and Ordered</i>		
	<i>Sealed.</i>	<i>Repaired.</i>	<i>Condemned.</i>
Computing	112	18	3
Counter	30	5	....
Spring	128	....	7
Beam	4	....	....
Wagon	20	....	2
Hopper	6	....	1
Platform	42	11	3
Milk bottles	45	....	....
Measuring pumps	3	....	....
Berry boxes	500	....	75
Milk, oil and ice cream cans.....	70	....	9
<hr/>			
Total, exclusive of berry boxes and milk bottles	415	34	25

CRAWFORD COUNTY.

WM. STRASBURG, *Sealer*. Galion.

SCALES:	<i>Adjusted and Ordered</i>		
	<i>Sealed.</i>	<i>Repaired.</i>	<i>Condemned.</i>
Computing	197	57	....
Counter	152	33	1
Spring	49	17	8
Beam	135	30	1
Wagon	26	13	....
Hopper	2	....	....
Platform	87	27	1
Suspension	17	8	....
Weights	562	169	11
Milk bottles	24	....	....
Measuring pumps	4	....	....
Tapes, counter tacks, and yards.....	30	....	....
Barrels, boxes, crates and baskets.....	1,203	....	119
Berry boxes	306	....	....
<hr/>			
Total, exclusive of milk bottles and berry boxes	2,464	354	141

EXECUTIVE DOCUMENTS.

CUYAHOGA COUNTY.

JOHN LEHR, *Sealer*. Cleveland.

SCALES:	<i>Adjusted and Ordered</i>		
	<i>Sealed.</i>	<i>Repaired.</i>	<i>Condemned.</i>
Computing	284	18	....
Counter	858	13	....
Spring	260	26	....
Beam	2	....	....
Wagon	58	15	....
Hopper	2	....	....
Platform	458	11	....
Dormant	29	9	....
Suspension	3	....	....
Weights	3,710	4	4
Dry measures	145	....	....
Liquid Measures	55	....	....
Milk bottles	240	....	....
Measuring pumps	20	....	....
Tapes, counter tacks and yards.....	22	....	....
Barrels, boxes, crates and baskets.....	812	....	....
Berry boxes	400	....	....
Milk, oil and Ice Cream cans	51	....	....
Total, exclusive of milk bottles and berry boxes	6,769	96	4

DARKE COUNTY.

WESLEY AULT, *Sealer*. Greenville.

SCALES:	<i>Adjusted and Ordered</i>		
	<i>Sealed.</i>	<i>Repaired.</i>	<i>Condemned.</i>
Computing	240	33	1
Counter	145	27	2
Spring	99	20	2
Wagon	134	36	2
Hopper	10	2	....
Platform	256	50	2
Suspension	27	5	....
Dry Measures	20	....	5
Liquid Measures	716	....	30
Measuring pumps	20	4	....
Milk, oil and ice cream cans	70	....	4
Total	1,737	177	48

DEFIANCE COUNTY.

W. F. KIMBERLY, *Sealer*. Defiance.

SCALES:	<i>Adjusted and Ordered</i>		
	<i>Sealed.</i>	<i>Repaired.</i>	<i>Condemned.</i>
Computing	186	117	6
Counter	26	....	....
Spring	4	....	73
Beam	22	....	4
Wagon	195	140	11
Hopper	7	....	....
Platform	279	79	6
Weights	1,077	....	160
Measuring pumps	107	39	....
Tapes, counter tacks and yards.....	96	....	....
Berry boxes	13,500	....	....
Milk, oil and ice cream cans	7	....	....
Total, exclusive of berry boxes.....	2,006	375	260

DELAWARE COUNTY.

JAMES A. SAMSON, *Sealer*. Delaware.

SCALES:	<i>Adjusted and Ordered</i>		
	<i>Sealed.</i>	<i>Repaired.</i>	<i>Condemned.</i>
Computing	90	13	....
Counter	62	5	3
Spring	10	....	20
Wagon	20	6	1
Platform	39	6	2
Weights	340	3	6
Milk bottles	300	....	....
Measuring pumps	23	3	....
Berry boxes	50	....	....
Linear measures	20	....	....
Total, exclusive of berry boxes and milk bottles	604	36	32

EXECUTIVE DOCUMENTS.

ERIE COUNTY.

J. M. LINDSLEY, *Sealer*. Sandusky.

SCALES:	<i>Adjusted and Ordered</i>		
	<i>Sealed.</i>	<i>Repaired.</i>	<i>Condemned.</i>
Computing	72	2	2
Counter	14	1	1
Spring	6	2	21
Beam	103	3	5
Wagon	114	1	10
Hopper	8	....	....
Platform	78	2	1
Dormant	3	1	1
Penny-in-slot	1	....	....
Suspension	6	1	1
Weights	1,100	....	26
Measuring pumps	21	....	....
Barrels, boxes, crates and baskets.....	120	....	26
Berry boxes	920	....	25
Milk, oil and ice cream cans	37	....	2
Total, exclusive of berry boxes.....	1,683	13	96

FAIRFIELD COUNTY.

No Sealer.

FAYETTE COUNTY.

H. W. JONES, *Sealer*. Washington C. H.

SCALES:	<i>Adjusted and Ordered</i>		
	<i>Sealed.</i>	<i>Repaired.</i>	<i>Condemned.</i>
Computing	91	23	4
Counter	19	4	....
Spring	5	....	4
Wagon	64	33	18
Platform	17	4	1
Weights	483	32	89
Measuring pumps	11	....	1
Total	690	96	117

FRANKLIN COUNTY.

GEORGE CONNARD, *Sealer*. Columbus.

SCALES:	<i>Adjusted and Ordered</i>		
	<i>Scaled.</i>	<i>Repaired.</i>	<i>Condemned.</i>
Computing	537	5	4
Counter	317	4	6
Spring	55	2	5
Beam	11	....	1
Wagon	389	42	33
Hopper	14	....	....
Platform	319	5	4
Railroad track	2	....	1
Dry measures	551	....	9
Liquid measures	1,440	....	11
Measuring pumps	9	....	....
Total	8,644	58	74

FULTON COUNTY.

G. A. BOGER, *Sealer*. Wauseon.

SCALES:	<i>Adjusted and Ordered</i>		
	<i>Scaled.</i>	<i>Repaired.</i>	<i>Condemned.</i>
Computing	97	37	....
Counter	129	7	5
Beam	8	9	....
Wagon	52	2	2
Hopper	7	1	....
Platform	126	3	3
Suspension	3	....	....
Weights	938	32	11
Milk bottles	3,000	....	....
Measuring pumps	73	6	....
Tapes, counter tacks and yards	83	....	....
Barrels, boxes, crates and baskets	3	....	....
Miscellaneous	368	....	....
Total, exclusive of milk bottles	1,887	97	21

GALLIA COUNTY.

No Sealer.

GEAUGA COUNTY.

FOREST CHARTER, *Sealer*. Chardon.

SCALES:	<i>Adjusted and Ordered</i>		
	<i>Sealed.</i>	<i>Repaired.</i>	<i>Condemned.</i>
Computing	71	4	2
Counter	257	14	....
Spring	36	7	1
Wagon	44	5	....
Platform	144	25	1
Weights	1,115	49	1
Liquid measures	308	....	9
Milk bottles	950	....	....
Measuring pumps	59	7	2
Tapes, counter tacks and yards.....	100	....	4
Total, exclusive of milk bottles.....	2,134	111	20

GREENE COUNTY.

ASA LITTLE, *Sealer*. Xenia.

SCALES:	<i>Adjusted and Ordered</i>		
	<i>Sealed.</i>	<i>Repaired.</i>	<i>Condemned.</i>
Computing	87	....	7
Counter	111	....	7
Spring	70	....	9
Beam	11	....	2
Wagon	441	....	65
Hopper	13	....	....
Platform	127	....	3
Suspension	16	....	3
Weights	1,065	50	....
Liquid measures	131	....	9
Milk bottles	1,000	....	....
Measuring pumps	20	4	....
Milk, oil and ice cream cans.....	25	....	....
Total, exclusive of milk bottles.....	2,117	54	105

GUERNSEY COUNTY.

W. H. BULGER, *Sealer*. Cambridge.

SCALES:	<i>Adjusted and Ordered</i>		
	<i>Scaled.</i>	<i>Repaired.</i>	<i>Condemned.</i>
Computing	249	....	4
Counter	132	....	2
Spring	41	....	5
Beam	5	....	....
Wagon	14	....	....
Hopper	1	....	....
Platform	272	2	....
Dormant	1	....	....
Weights	1,561	....	....
Measuring pumps	45	....	2
Tapes, counter tacks and yards.....	258	....	10
Milk, oil and ice cream cans.....	5	....	....
Liquid measures	320	....	....
Total	2,584	2	23

HAMILTON COUNTY.

EDWARD BARTSCHE, *Sealer*. Cincinnati.

SCALES:	<i>Adjusted and Ordered</i>		
	<i>Scaled.</i>	<i>Repaired.</i>	<i>Condemned.</i>
Computing	447	....	10
Counter	410	....	25
Beam	187	....	25
Wagon	63	....	15
Hopper	2	....	....
Platform	151	....	25
Dormant	29	....	9
Weights	1,646	....	295
Dry measures	3,869	....	259
Liquid measures	1,198	....	....
Measuring pumps	41	7	....
Tapes, counter tacks and yards.....	40	....	....
Milk, oil and ice cream cans.....	25	....	....
Total	8,108	7	663

EXECUTIVE DOCUMENTS.

HANCOCK COUNTY.

L. D. HALE, *Sealer*. Findlay.

SCALES:	<i>Adjusted and Ordered</i>		
	<i>Sealed.</i>	<i>Repaired.</i>	<i>Condemned.</i>
Computing	59	13	5
Counter	38	6	....
Spring	5	....	2
Wagon	52	20	....
Hopper	19	....	1
Dormant	11	3	....
Platform	73	16	....
Weights	414	122	6
Milk bottles	128	....	....
Measuring pumps	24	5	....
Tapes, counter tacks and yards.....	14	....	....
Berry boxes	48	....	12
Milk, oil and ice cream cans	27	....	5
Total, exclusive of milk bottles and berry boxes	736	185	19

HARDIN COUNTY.

D. M. FLANNAGAN, *Sealer*. Kenton.

SCALES:	<i>Adjusted and Ordered</i>		
	<i>Sealed.</i>	<i>Repaired.</i>	<i>Condemned.</i>
Computing	112	8	3
Counter	147	6	8
Spring	5	....	2
Beam	28	....	....
Wagon	88	17	11
Hopper	12	....	....
Platform	40	5	2
Weights	312	6	5
Milk bottles	400	....	....
Measuring pumps	12	....	....
Milk, oil and ice cream cans	44	....	....
Total, exclusive of milk bottles.....	800	42	31

HARRISON COUNTY.

J. J. SEARS, *Sealer.* Cadiz.

SCALES:	<i>Adjusted and Ordered</i>		
	<i>Sealed.</i>	<i>Repaired.</i>	<i>Condemned.</i>
Computing	107	....	2
Counter	135	....	3
Spring	39	....	2
Beam	6	....	....
Wagon	68	....	33
Platform	183	....	35
Weights	5	....	1
Measuring pumps	36	....	....
Tapes, counter tacks and yards.....	171	....	4
Milk, oil and ice cream cans... \.....	6	....	2
Total	756	....	82

HENRY COUNTY.

No Sealer.

HIGHLAND COUNTY.

A. C. UNDERWOOD, *Sealer.* Hillsboro.

SCALES:	<i>Adjusted and Ordered</i>		
	<i>Sealed.</i>	<i>Repaired.</i>	<i>Condemned.</i>
Computing	13	....	....
Counter	50	....	....
Spring	10	....	....
Platform	29	....	....
Penny-in-slot	1	....	....
Weights	268	....	....
Measuring pumps	16	....	....
Miscellaneous	83	....	....
Total	470	....	....

HOCKING COUNTY.

No Sealer.

EXECUTIVE DOCUMENTS.

HOLMES COUNTY.

CHARLES E. LARIMER. Millersburg.

SCALES:	<i>Adjusted and Ordered</i>		
	<i>Sealed.</i>	<i>Repaired.</i>	<i>Condemned.</i>
Computing	130	5	3
Counter	35	2	1
Spring	83	3	8
Beam	85	....	1
Wagon	60	....	1
Hopper	19	....	....
Platform	179	9	1
Suspension	60	1	6
Weights	965	15	5
Dry measures	47	....	17
Liquid measures	269	....	25
Milk bottles	315	....	....
Measuring pumps	28	....	....
Berry boxes	162	....	....
Total, exclusive of milk bottles and berry boxes	1,960	35	68

HURON COUNTY.

ALLEN E. HUFF, *Sealer.* Norwalk.

SCALES:	<i>Adjusted and Ordered</i>		
	<i>Sealed.</i>	<i>Repaired.</i>	<i>Condemned.</i>
Computing	161	60	2
Counter	193	9	1
Spring	21	13	5
Wagon	109	13	5
Hopper	12	....	....
Platform	175	3	....
Suspension	2	....	....
Weights	1,420	....	2
Milk bottles	4,200	....	6
Measuring pumps	66	4	....
Tapes, counter tacks and yards	164	....	....
Barrels, boxes, crates and baskets	164	....	3
Berry boxes	301	....	11
Milk, oil and ice cream cans	63	....	....
Total, exclusive of milk bottles and berry boxes	2,550	102	18

JACKSON COUNTY.

No Sealer.

JEFFERSON COUNTY.

JOHN A. BICKERSTAFF, *Sealer.* Steubenville.

SCALES:	<i>Adjusted and Ordered</i>		
	<i>Sealed.</i>	<i>Repaired.</i>	<i>Condemned.</i>
Computing	210	13	1
Counter	47	1	....
Spring	35	1	6
Beam	18	....	....
Wagon	30	3	1
Hopper	5	....	....
Dormant	3	....	....
Suspension	2	....	....
Weights	1,094	17	6
Liquid measures	462	....	3
Milk bottles	2,446	....	....
Measuring pumps.....	68	....	....
Milk, oil and ice cream cans.....	115	....	123
Dry measures .....	....	....	4
Linear measures	103	....	....
Total, exclusive of milk bottles.....	2,192	35	144

KNOX COUNTY.

J. C. TINKEY, *Sealer.* Mt. Vernon.

SCALES:	<i>Adjusted and Ordered</i>		
	<i>Sealed.</i>	<i>Repaired.</i>	<i>Condemned.</i>
Computing	134	78	10
Counter	193	108	39
Spring	73	15	91
Beam	18	5	13
Wagon	70	60	28
Hopper	21	22	5
Platform	253	218	66
Dormant	23	30	6
Suspension	63	56	4
Weights	2,181.	631	311
Dry measures	12	....	48
Liquid measures	344	....	83
Milk bottles	434	....	16
Measuring pumps	16	2	4
Tapes, counter tacks and yards.....	28	....	40
Barrels, boxes, crates and baskets.....	16	....	52
Berry boxes	5,316	....	286
Milk, oil and ice cream cans.....	43	....	25
Total, exclusive of milk bottles and berry boxes	3,488	1,225	825

EXECUTIVE DOCUMENTS.

LAKE COUNTY.

DALE R. SMITH, *Sealer*. Painesville.

SCALES :	<i>Adjusted and Ordered</i>		
	<i>Sealed.</i>	<i>Repaired.</i>	<i>Condemned.</i>
Computing	87	30	....
Counter	89	18	....
Spring	68	8	....
Wagon	27	4	....
Hopper	2	1	....
Platform	97	....	....
Weights	7	....	....
Measuring pumps	38	....	....
Milk, oil and ice cream cans.....	206	....	13
Total :.....	621	61	13

LAWRENCE COUNTY.

W. C. BEATTY, *Sealer*. Ironton.

No report.

LICKING COUNTY.

C. R. McFADDEN, *Sealer*. Newark.

SCALES :	<i>Adjusted and Ordered</i>		
	<i>Sealed.</i>	<i>Repaired.</i>	<i>Condemned.</i>
Computing	104	23	3
Counter	110	16	....
Spring	33	....	....
Beam	3	....	....
Wagon	42	2	3
Hopper	1	....	....
Platform	115	3	2
Suspension	2	....	1
Weights	1,157	47	49
Milk bottles	600	....	....
Measuring pumps	31	1	....
Tapes, counter tacks and yards.....	15	....	....
Barrels, boxes, crates and baskets.....	2	....	....
Milk, oil and ice cream cans.....	5	....	....
Miscellaneous	791	....	83
Total, exclusive of milk bottles.....	2,411	92	141

LOGAN COUNTY.

G. T. DETRICK, *Sealer*. Bellefontaine.

SCALES:	<i>Adjusted and Ordered</i>		
	<i>Sealed.</i>	<i>Repaired.</i>	<i>Condemned.</i>
Computing	72	11	....
Counter	102	5	....
Spring	4	7	22
Beam	7	1	....
Wagon	26	7	1
Hopper	6	....	....
Platform	68	6	....
Railroad track	1	....	....
Suspension	2	....	....
Weights	785	14	14
Liquid measures	21	....	9
Measuring pumps	14	1	....
Tapes, counter tacks and yards.....	7	....	11
Dry measures .....	....	....	4
Total	1,115	52	61

LORAIN COUNTY.

T. W. MORGAN, *Sealer*. Elyria.

SCALES:	<i>Adjusted and Ordered</i>		
	<i>Sealed.</i>	<i>Repaired.</i>	<i>Condemned.</i>
Computing	214	34	....
Counter	216	9	1
Spring	53	10	4
Beam	31	3	....
Wagon	6	13	....
Hopper	2	....	....
Platform	36	6	....
Suspension	31	2	1
Weights	1,160	39	1
Tapes, counter tacks and yards.....	167	....	....
Barrels, boxes, crates and baskets.....	20	....	9
Berry boxes	140	....	....
Milk, oil and ice cream cans.....	6	....	3
Miscellaneous	651	....	31
Total, exclusive of berry boxes.....	2,593	116	50

LUCAS COUNTY.

W. H. WOLFORD, *Sealer*. Toledo.

SCALES :	<i>Adjusted and Ordered</i>		
	<i>Sealed.</i>	<i>Repaired.</i>	<i>Condemned.</i>
Computing	117	48	....
Counter	112	41	....
Spring	2	8	....
Wagon	32	17	....
Hopper	1	....	....
Platform	45	21	....
Dormant	1	....	....
Weights	503	....	13
Dry measures	33	....	....
Liquid measures	6	....	....
Milk bottles	46,703	....	1,152
Measuring pumps	2	....	....
Tapes, counter tacks and yards.....	2	....	6
Total, exclusive of milk bottles.....	856	135	19

MADISON COUNTY.

L. J. LEONARD, *Sealer*. London.

SCALES :	<i>Adjusted and Ordered</i>		
	<i>Sealed.</i>	<i>Repaired.</i>	<i>Condemned.</i>
Computing	134	12	3
Counter	122	....	5
Spring	144	....	17
Beam	12	....	3
Wagon	149	63	....
Hopper	9	....	....
Platform	107	12	....
Dormant	13	2	....
Penny-in-slot	15	3	....
Suspension	27	4	3
Weights	2,367	103	40
Dry measures	107	....	23
Liquid measures	277	....	16
Milk bottles	1,054	....	....
Measuring pumps	36	....	3
Tapes, counter tacks and yards.....	97	....	6
Barrels, boxes, crates and baskets.....	114	....	9
Berry boxes	477	....	43
Milk, oil and ice cream cans.....	583	....	22
Miscellaneous	695	....	20
Total, exclusive of milk bottles and berry boxes	5,008	199	170

MAHONING COUNTY.

R. H. McDONALD, *Sealer*. Youngstown.

SCALES:	<i>Adjusted and Ordered</i>		
	<i>Sealed.</i>	<i>Repaired.</i>	<i>Condemned.</i>
Computing	499	320	80
Counter	333	128	38
Spring	112	34	255
Beam	32	15	3
Wagon	56	57	3
Platform	310	158	18
Penny-in-slot	5	2	....
Suspension	105	55	36
Weights	1,666	94	139
Dry measures	368	....	198
Milk bottles	500	....	....
Measuring pumps	27	18	5
Tapes, counter tacks and yards.....	71	....	19
Barrels, boxes, crates and baskets.....	156	1,514
Berry boxes	75,000	65,000
Milk, oil and ice cream cans.....	415	70
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Total, exclusive of berry boxes and milk bottles	4,155	881	2,378

MARION COUNTY.

CHAS. TOBIN, *Sealer*. Marion.

SCALES:	<i>Adjusted and Ordered</i>		
	<i>Sealed.</i>	<i>Repaired.</i>	<i>Condemned.</i>
Computing	720	45	6
Counter	31	5	5
Spring	2	....	....
Wagon	51	10	2
Hopper	7	....	....
Platform	48	6	2
Dormant	4	....	....
Suspension .....	....	2	....
Weights	465	25	18
Milk bottles	4,500	....	....
Measuring pumps	38	6	....
Tapes, counter tacks and yards.....	200	....	....
Berry boxes	5,500	....	20
Milk, oil and ice cream cans.....	24	....	....
<hr/>			
Total, exclusive of milk bottles and berry boxes	1,590	99	33

MEDINA COUNTY.

J. D. DANNLEY, *Sealer*. Medina.

SCALES:	<i>Adjusted and Ordered</i>		
	<i>Scaled.</i>	<i>Repaired.</i>	<i>Condemned.</i>
Computing	64	48	5
Counter	109	57	17
Spring	101	2	94
Beam	12	4	10
Wagon	26	22	9
Hopper	5	7	....
Platform	165	146	34
Dormant	14	20	....
Weights	2,173	397	301
Liquid measures	30	....	10
Milk bottles	2,708	....	39
Measuring pumps .....	....	15	....
Tapes, counter tacks and yards.....	....	....	95
Barrels, boxes, crates and baskets.....	2
Berry boxes	2,000
Milk, oil and ice cream cans.....	350	4
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Total, exclusive of milk bottles and berry boxes	3,049	718	581

MEIGS COUNTY.

C. McDADE, *Sealer*. Pomeroy.

SCALES:	<i>Adjusted and Ordered</i>		
	<i>Scaled.</i>	<i>Repaired.</i>	<i>Condemned.</i>
Computing	161	23	....
Counter	119	12	....
Spring	36	3	2
Beam	37	1	....
Wagon	60	....	2
Hopper	7	3	....
Platform	158	16	....
Weights	1,405	50	6
Dry measures	68	....	54
Liquid measures	194	....	39
Measuring pumps	27	6
Tapes, counter tacks and yards.....	392	155
Milk, oil and ice cream cans.....	10
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Total	2,674	114	258

MERCER COUNTY.

PAT CALLAN, *Sealer*. Celina.

SCALES:	<i>Adjusted and Ordered</i>		
	<i>Sealed.</i>	<i>Repaired.</i>	<i>Condemned.</i>
Computing	84	10	....
Counter	30	8	....
Spring	20	8	....
Beam	13	3	....
Wagon	17	2	....
Platform	68	13	....
Weights	380	14	....
Milk bottles	1,101	....	....
Measuring pumps	10	29	....
Tapes, counter tacks and yards.....	144	....	....
Milk, oil and ice cream cans.....	14	....	....
Total, exclusive of milk bottles.....	780	87	....

MIAMI COUNTY.

E. R. WALSH, *Sealer*. Troy.

SCALES:	<i>Adjusted and Ordered</i>		
	<i>Sealed.</i>	<i>Repaired.</i>	<i>Condemned.</i>
Computing	118	....	109
Counter	160	....	75
Spring	52	....	129
Beam	14	....	8
Wagon	88	....	28
Hopper	32	....	1
Platform	219	....	58
Penny-in-slot	4	....	1
Weights	883	....	106
Dry measures	192	....	31
Liquid measures	232	....	27
Measuring pumps	14	....	11
Tapes, counter tacks and yards.....	117	....	192
Miscellaneous	18	....	....
Total	2,143	....	771

EXECUTIVE DOCUMENTS.

MONROE COUNTY.

H. A. SMITH, *Sealer*. Woodsfield.

SCALES:	<i>Adjusted and Ordered</i>		
	<i>Sealed.</i>	<i>Repaired.</i>	<i>Condemned.</i>
Computing	102	1	....
Counter	57	1	....
Spring	8	....	1
Beam	6	....	2
Wagon	10	....	....
Platform	104	....	1
Weights	891	....	....
Measuring pumps	102	....	3
Tapes, counter tacks and yards.....	111	....	....
Berry boxes	564	....	....
Total, exclusive of berry boxes.....	1,391	2	7

MONTGOMERY COUNTY.

FRED H. DELSCAMP, *Sealer*. Dayton.

SCALES:	<i>Adjusted and Ordered</i>		
	<i>Sealed.</i>	<i>Repaired.</i>	<i>Condemned.</i>
Computing	350	48	1
Counter	110	4	4
Spring	184	....	20
Wagon	71	8	....
Weights	1,607	....	5
Milk bottles	314	....	36
Measuring pumps	77	2	....
Total, exclusive of milk bottles.....	2,399	62	30

MORGAN COUNTY.

E. A. SCOTT, *Sealer*. McConnelsville.

SCALES:	<i>Adjusted and Ordered</i>		
	<i>Sealed.</i>	<i>Repaired.</i>	<i>Condemned.</i>
Computing	47	2	....
Counter	32	8	....
Spring	8	....	....
Beam	12	....	....
Wagon	78	11	....
Hopper	2	....	....
Platform	63	2	....
Suspension	2	....	....
Weights	394	13	....
Liquid measures	83	....	....
Measuring pumps	26	1	....
Tapes, counter tacks and yards.....	56	....	....
Total	803	37	....

MORROW COUNTY.

C. B. BERRY, *Sealer*. Mt. Gilead.

SCALES:	<i>Adjusted and Ordered</i>		
	<i>Sealed.</i>	<i>Repaired.</i>	<i>Condemned.</i>
Computing	50	....	....
Counter	87	....	....
Spring	10	....	....
Beam	5	....	....
Wagon	34	....	1
Platform	97	....	1
Weights	703	35	....
Milk bottles	1,400	....	....
Measuring pumps	15	....	....
Tapes, counter tacks and yards.....	86	....	....
Barrels, boxes, crates and baskets.....	1,000	....	350
Total, exclusive of milk bottles.....	2,087	35	352

MUSKINGUM COUNTY.

C. L. PEPPER, *Sealer*. Zanesville.

SCALES:	<i>Adjusted and Ordered</i>		
	<i>Sealed.</i>	<i>Repaired.</i>	<i>Condemned.</i>
Computing	147	2	3
Counter	55	....	4
Spring	35	....	7
Beam	81	3	....
Wagon	71	5	2
Hopper	157	6	7
Suspension	9	....	1
Weights	882	....	10
Milk bottles	70	....	....
Measuring pumps	23	....	2
Tapes, counter tacks and yards.....	175	....	16
Total, exclusive of milk bottles.....	1,615	16	52

EXECUTIVE DOCUMENTS.

NOBLE COUNTY.

F. W. DRINSTACK, *Sealer*. Caldwell.

SCALES:	<i>Adjusted and Ordered</i>		
	<i>Sealed.</i>	<i>Repaired.</i>	<i>Condemned.</i>
Computing	89	....	....
Counter	41	....	6
Spring	5	....	3
Beam	6	....	1
Wagon	32	....	2
Hopper	1	....	....
Platform	113	....	5
Measuring pumps	35	....	4
Tapes, counter tacks and yards.....	121	....	12
Total	448	....	33

OTTAWA COUNTY.

F. S. WENGER, *Sealer*. Port Clinton.

SCALES:	<i>Adjusted and Ordered</i>		
	<i>Sealed.</i>	<i>Repaired.</i>	<i>Condemned.</i>
Computing	67	8	3
Counter	62	4	....
Spring	25	5	4
Wagon	46	5	4
Hopper	11	1	....
Platform	106	15	....
Liquid measures	149	....	30
Milk bottles	150	....	....
Measuring pumps	37	4	....
Total, exclusive of milk bottles.....	503	42	41

PAULDING COUNTY.

W. S. SHUFF, *Sealer*. Paulding.

SCALES :	<i>Adjusted and Ordered</i>		
	<i>Sealed.</i>	<i>Repaired.</i>	<i>Condemned.</i>
Computing	153	4	....
Counter	73	....	....
Spring	29	....	5
Beam	81	....	....
Wagon	137	28	3
Hopper	13	....	....
Platform	111	31	3
Weights	1,084	59	....
Dry measures	75	....	21
Liquid measures	270	....	15
Measuring pumps	75	6	1
Tapes, counter tacks and yards.....	92	....	9
Total	2,143	128	57

PERRY COUNTY.

JOSEPH PEART, *Sealer*. New Lexington.

SCALES :	<i>Adjusted and Ordered</i>		
	<i>Sealed.</i>	<i>Repaired.</i>	<i>Condemned.</i>
Computing	226	6	5
Counter	21	....	4
Spring	25	....	32
Beam	42	....	4
Wagon	64	7	2
Hopper	14	6	1
Platform	106	....	8
Weights	363	....	10
Dry measures	98	....	38
Liquid measures	185	....	10
Measuring pumps	63	....	....
Tapes, counter tacks and yards.....	66	....	12
Berry boxes .....	....	....	40
Total, exclusive of berry boxes.....	1,273	19	126

PICKAWAY COUNTY.

C. E. STOUT, *Sealer*. Circleville.

SCALES:	<i>Adjusted and Ordered</i>		
	<i>Sealed.</i>	<i>Repaired.</i>	<i>Condemned.</i>
Computing	40	....	....
Counter	20	....	....
Spring	10	....	10
Wagon	60	6	3
Hopper	3	....	....
Platform	33	....	....
Dormant	5	....	....
Penny-in-slot	3	....	....
Suspension	8	....	....
Weights	226	174	....
Measuring pumps	10	8	....
Tapes, counter tacks and yards.....	30	....	....
Barrels, boxes, crates and baskets.....	30	....	....
Berry boxes	100	....	....
Milk, oil and ice cream cans.....	15	....	....
Total, exclusive of berry boxes.....	493	188	13

PIKE COUNTY.

No sealer, no work done.

PORTAGE COUNTY.

W. S. LYNN, *Sealer*. Ravenna.

SCALES:	<i>Adjusted and Ordered</i>		
	<i>Sealed.</i>	<i>Repaired.</i>	<i>Condemned.</i>
Computing	170	....	3
Counter	114	....	2
Spring	240	....	53
Beam	578	24	17
Wagon	94	2	....
Hopper	10	1	1
Platform	3	....	....
Dormant	75	....	....
Suspension	89	2	31
Weights	900	....	50
Liquid measures	946	....	61
Measuring pumps	101	....	4
Tapes, counter tacks and yards.....	57	....	6
Milk, oil and ice cream cans.....	38	....	....
Total	3,415	29	228

PREBLE COUNTY.

G. P. SWOPE, *Sealer*. Eaton.

SCALES:	<i>Adjusted and Ordered</i>		
	<i>Sealed.</i>	<i>Repaired.</i>	<i>Condemned.</i>
Computing	169	6	....
Counter	151	....	....
Spring	119	....	....
Beam	13	....	....
Wagon	127	9	....
Hopper	12	....	....
Platform	185	....	....
Weights	1,485	299	....
Liquid measures	170	....	....
Milk bottles	1,419	....	....
Measuring pumps	77	....	....
Tapes, counter tacks and yards.....	132	....	....
Berry boxes	256	....	....
Milk, oil and ice cream cans	50	....	....
Total, exclusive of milk bottles and berry boxes	2,690	314	....

PUTNAM COUNTY.

SAM CARTRIGHT, *Sealer*. Ottawa.

SCALES:	<i>Adjusted and Ordered</i>		
	<i>Sealed.</i>	<i>Repaired.</i>	<i>Condemned.</i>
Computing	228	46	1
Counter	140	91	8
Spring	14	....	27
Beam	6	28	....
Wagon	75	30	....
Hopper	20	10	....
Platform	89	63	9
Dormant	1	5	....
Suspension	4	7	2
Weights	212	40	182
Milk bottles	310	....	36
Measuring pumps	38	28	....
Tapes, counter tacks	128	....	16
Barrels, boxes, crates and baskets	37	....	21
Berry boxes	94	....	47
Milk, oil and ice cream cans	11	....	4
Miscellaneous	108	....	28
Total, exclusive of milk bottles and berry boxes	1,111	348	298

EXECUTIVE DOCUMENTS.

RICHLAND COUNTY.

M. S. PAYNE, *Sealer*. Mansfield.

SCALES:	<i>Adjusted and Ordered</i>		
	<i>Sealed.</i>	<i>Repaired.</i>	<i>Condemned.</i>
Computing	153	....	2
Counter	184	6	4
Spring	53	....	8
Platform	227	....	2
Weights	1,575	....	....
Liquid measures	230	....	3
Milk bottles	20,000	....	....
Measuring pumps	42	....	....
Tapes, counter tacks and yards.....	6	....	....
Total, exclusive of milk bottles.....	2,470	6	19

ROSS COUNTY.

M. T. SWEPSTON, *Sealer*. Chillicothe.

SCALES:	<i>Adjusted. and Ordered</i>		
	<i>Sealed.</i>	<i>Repaired.</i>	<i>Condemned.</i>
Computing	70	29	....
Counter	118	9	4
Spring	30	7	....
Beam	4	....	....
Wagon	111	50	....
Hopper	1	....	....
Platform	113	21	....
Dormant .....	....	....	....
Weights	1,567	40	34
Liquid measures	324	....	....
Measuring pumps	22	21	1
Tapes, counter tacks and yards	25	....	....
Barrels, boxes, crates and baskets.....	89	....	....
Total	2,474	177	39

SANDUSKY COUNTY.

CARL WOLF, *Sealer*. Fremont.

SCALES:	<i>Adjusted and Ordered</i>		
	<i>Sealed.</i>	<i>Repaired.</i>	<i>Condemned.</i>
Computing	113	29	1
Counter	165	25	7
Spring	146	8	36
Beam	2	1	4
Wagon	59	15	....
Hopper	13	....	....
Platform	152	27	2
Weights	1,240	34	29
Measuring pumps	46	21	6
Berry boxes	8,623	....	....
Miscellaneous	195	....	49
Total, exclusive of berry boxes.....	2,131	160	128

SCIOTO COUNTY.

JOHN ZEUNE, *Sealer*. Portsmouth.

SCALES:	<i>Adjusted and Ordered</i>		
	<i>Sealed.</i>	<i>Repaired.</i>	<i>Condemned.</i>
Computing	422	35	....
Counter	161	16	....
Spring	88	....	33
Beam	22	5	....
Wagon	78	5	....
Hopper	5	....	....
Platform	384	28	....
Dormant	40	....	....
Penny-in-slot .....	....	....	1
Suspension	3	....	....
Weights	2,716	....	18
Milk bottles	1,425	....	....
Measuring pumps	14	2	....
Tapes, counter tacks and yards.....	100	....	25
Barrels, boxes, crates and baskets.....	400	....	325
Berry boxes	3,000	....	2,000
Milk, oil and ice cream cans.....	300	....	....
Total, exclusive of berry boxes and milk bottles	4,733	91	402

EXECUTIVE DOCUMENTS.

SENECA COUNTY.

F. E. WEIDAW, *Sealer*. Tiffin.

SCALES:	<i>Adjusted and Ordered</i>		
	<i>Sealed.</i>	<i>Repaired.</i>	<i>Condemned.</i>
Computing	175	36	2
Counter	160	16	6
Spring	42	....	60
Beam	16	....	1
Wagon	135	45	5
Hopper	23	....	....
Platform	150	30	5
Dormant	17	....	....
Penny-in-slot	10	....	....
Suspension	11	....	20
Weights	1,675	100	150
Milk bottles	2,000	....	125
Measuring pumps	45	22	1
Tapes, counter tacks and yards.....	1,596	....	105
Berry boxes	55,000	....	10,500
<hr/>			
Total, exclusive of milk bottles and berry boxes	4,055	249	355

SHELBY COUNTY.

GEORGE P. STALEY, *Sealer*. Sidney.

SCALES:	<i>Adjusted and Ordered</i>		
	<i>Sealed.</i>	<i>Repaired.</i>	<i>Condemned.</i>
Computing	53	11	2
Counter	99	12	2
Spring	15	....	7
Beam	7	....	3
Wagon	3	....	....
Platform	29	2	....
Weights	297	....	20
Measuring pumps	2	....	....
Tapes, counter tacks and yards	13	....	9
Milk, oil and ice cream cans.....	10	....	5
<hr/>			
Total	528	25	48

STARK COUNTY.

J. S. GARMAN, *Sealer*. Canton.

SCALES :	<i>Adjusted and Ordered</i>		
	<i>Sealed.</i>	<i>Repaired.</i>	<i>Condemned.</i>
Computing	171	66	8
Counter	82	10	5
Spring	39	....	43
Beam	10	....	....
Wagon	73	29	4
Hopper	10	....	....
Platform	183	21	7
Dormant	15	3	....
Suspension	4	4	....
Weights	1,558	452	6
Milk bottles	100	....	....
Measuring pumps	42	8	....
Miscellaneous	306	....	227
Total, exclusive of milk bottles.....	2,493	593	300

SUMMIT COUNTY.

JOSEPH SHERBONDY, *Sealer*. Akron.

SCALES :	<i>Adjusted and Ordered</i>		
	<i>Sealed.</i>	<i>Repaired.</i>	<i>Condemned.</i>
Computing	216	2	....
Counter	181	....	....
Spring	183	....	....
Beam	18	....	....
Wagon	86	3	....
Hopper	7	....	....
Platform	302	....	....
Weights	2,075	....	4
Dry measures	64	....	4
Liquid measures	715	....	....
Measuring pumps	106	2	....
Total	3,953	7	8

EXECUTIVE DOCUMENTS.

TRUMBULL COUNTY.

H. W. WILSON, *Sealer*. Warren.

SCALES:	<i>Adjusted and Ordered</i>		
	<i>Sealed.</i>	<i>Repaired.</i>	<i>Condemned.</i>
Computing	427	....	6
Counter	529	....	4
Spring	136	....	15
Beam	17	....	4
Wagon	42	1	2
Platform	365	....	10
Weights	3,693	....	17
Liquid measures	890	....	22
Milk bottles	80	....	....
Measuring pumps	57	....	....
Tapes, counter tacks and yards.....	185	....	....
Barrels, boxes, crates and baskets.....	355	....	38
Milk, oil and ice cream cans.....	8	....	....
Total, exclusive of milk bottles.....	6,704	1	118

TUSCARAWAS COUNTY.

GEORGE E. PYLE, *Sealer*. New Philadelphia.

SCALES:	<i>Adjusted and Ordered</i>		
	<i>Sealed.</i>	<i>Repaired.</i>	<i>Condemned.</i>
Computing	316	31	....
Counter	87	14	....
Spring	56	10	1
Wagon	38	15	....
Hopper	37	16	....
Platform	136	41	....
Dormant	3	....	....
Suspension	12	2	....
Weights	863	5	6
Liquid measures	517	....	4
Milk bottles	4,267	....	....
Measuring pumps	51	3	....
Tapes, counter tacks and yards.....	498	....	3
Berry Boxes	1,481	....	....
Milk, oil and ice cream cans.....	374	....	....
Total, exclusive of milk bottles and berry boxes	2,988	137	14

UNION COUNTY.

FRANK E. MOORE, *Sealer*. Marysville.

SCALES:	<i>Adjusted and Ordered</i>		
	<i>Sealed.</i>	<i>Repaired.</i>	<i>Condemned.</i>
Computing	57	9	4
Counter	25	....	1
Spring	25	....	6
Beam	26	1	4
Wagon	37	6	3
Hopper	3	1	....
Platform	55	4	5
Penny-in-slot	1	....	3
Weights	237	4	16
Dry measures	18	....	7
Liquid measures	164	....	....
Measuring pumps	18	....	....
Berry boxes	178	....	10
Total, exclusive of berry boxes.....	666	25	49

VAN WERT COUNTY.

CLARENCE GABRIEL, *Sealer*. Van Wert.

SCALES:	<i>Adjusted and Ordered</i>		
	<i>Sealed.</i>	<i>Repaired.</i>	<i>Condemned.</i>
Computing	42	18	8
Counter	15	13	11
Spring	23	40	29
Beam	40	22	3
Wagon	23	20	3
Hopper	21	9	....
Platform	25	31	9
Suspension	8	7	1
Milk bottles	700	....	....
Measuring pumps	99	11	3
Tapes, counter tacks and yards.....	487	....	202
Barrels, boxes, crates and baskets.....	43	....	71
Berry boxes	231	....	411
Milk, oil and ice cream cans.....	153	....	19
Total, exclusive of milk bottles and berry boxes	979	171	359

VINTON COUNTY.

E. E. HUMPHREY, *Sealer*. McArthur.

SCALES:	<i>Adjusted and Ordered</i>		
	<i>Sealed.</i>	<i>Repaired.</i>	<i>Condemned.</i>
Computing	41	15	....
Counter	56	12	2
Spring	9	23	....
Beam	5	3	....
Wagon	57	19	4
Hopper	4	....	....
Platform	89	5	1
Weights .....	....	....	15
Liquid measures	66	....	21
Measuring pumps	22	5	....
Tapes, counter tacks and yards.....	83	....	8
Total	432	82	51

WARREN COUNTY.

ALLEN HUFFMAN, *Sealer*. Lebanon.

SCALES:	<i>Adjusted and Ordered</i>		
	<i>Sealed.</i>	<i>Repaired.</i>	<i>Condemned.</i>
Computing	115	20	....
Counter	80	4	1
Spring	44	10	5
Beam	13	2	....
Wagon	147	54	....
Hopper	2	....	....
Platform	174	28	4
Penny-in-slot	4	....	....
Weights	1,573	122	12
Dry measures	22	....	17
Measuring pumps	37	17	....
Milk, oil and ice cream cans.....	91	....	8
Total	2,302	257	47

WASHINGTON COUNTY.

CLINT HOCKINBERRY, *Sealer.* Marietta.

SCALES:	<i>Adjusted. and Ordered</i>		
	<i>Sealed.</i>	<i>Repaired.</i>	<i>Condemned.</i>
Computing	237	25	16
Counter	223	28	2
Spring	45	....	20
Beam	18	3	1
Wagon	99	45	20
Hopper	7	....	2
Platform	257	22	3
Dormant	19	4	2
Weights	299	....	2
Measuring pumps	40	3	3
Tapes, counter tacks.....	479	....	....
Milk, oil and ice cream cans	302	....	16
Total	2,025	130	87

WAYNE COUNTY.

I. O. EBERT, *Sealer.* Wooster.

SCALES:	<i>Adjusted. and Ordered</i>		
	<i>Sealed.</i>	<i>Repaired.</i>	<i>Condemned.</i>
Computing	173	3	24
Counter	18	....	4
Spring	114	....	62
Beam	77	5	12
Wagon	42	1	1
Hopper	54	2	8
Platform	151	3	12
Penny-in-slot	2	....	....
Weights	1,401	....	100
Measuring pumps	30	8	1
Tapes, counter tacks and yards	127	....	....
Barrels, boxes, crates and baskets	2	....	....
Milk, oil and ice cream cans.....	163	....	25
Total	2,354	22	249

EXECUTIVE DOCUMENTS.

WILLIAMS COUNTY.

WILLIAM IMES, *Sealer*. Bryan.

SCALES:	<i>Adjusted. and Ordered</i>		
	<i>Sealed.</i>	<i>Repaired.</i>	<i>Condemned.</i>
Computing	113	....	13
Counter	54	....	9
Spring	6	....	61
Beam	27	....	8
Wagon	52	11	3
Hopper	6	....	....
Platform	95	....	10
Weights	513	....	72
Measuring pumps	55	....	4
Tapes, counter tacks and yards.....	101	....	4
Berry boxes	3,100	....	....
Total, exclusive of berry boxes.....	1,022	11	184

WOOD COUNTY.

ALBERT MAWER, *Sealer*. Bowling Green.

SCALES:	<i>Adjusted. and Ordered</i>		
	<i>Sealed.</i>	<i>Repaired.</i>	<i>Condemned.</i>
Computing	215	14	....
Counter	123	8	....
Spring	1	....	4
Wagon	163	11	....
Hopper	31	....	....
Platform	276	10	....
Weights	30	....	4
Measuring pumps	103	6	....
Milk, oil and ice cream cans	406	....	109
Total	1,348	49	117

WYANDOT COUNTY.

No Sealer.

No Work Done.

CITY OF ASHTABULA.

JOSEPH NAPOLETANIA, *Sealer.*

SCALES:	<i>Adjusted. and Ordered</i>		
	<i>Sealed.</i>	<i>Repaired.</i>	<i>Condemned.</i>
Computing	15	....	....
Counter	189	1	....
Spring	13	....	....
Wagon	9	....	....
Platform	30	....	....
Milk bottles	34	....	....
Milk, oil and ice cream cans.....	1	....	....
Total, exclusive of milk bottles.....	257	1	....

CITY OF AKRON.

O. P. MOORE, *Sealer.*

SCALES:	<i>Adjusted. and Ordered</i>		
	<i>Sealed.</i>	<i>Repaired.</i>	<i>Condemned.</i>
Computing	228	144	6
Counter	78	36	1
Spring	234	150	36
Beam	102	23	....
Wagon	126	45	1
Hopper	1	....	....
Platform	168	57	2
Dormant	82	31	....
Suspension	1	1	....
Weights	1,948	122	56
Measuring pumps	182	85	3
Tapes, counter tacks and yards.....	866	....	133
Barrels, boxes, crates and baskets.....	506	....	198
Berry boxes	20,000	....	....
Milk, oil and ice cream cans.....	520	....	233
Total, exclusive of berry boxes.....	5,042	694	669

EXECUTIVE DOCUMENTS.

CITY OF CANTON.

PETER OBRINGER, *Sealer*.

SCALES:	<i>Adjusted. and Ordered</i>		
	<i>Sealed.</i>	<i>Repaired.</i>	<i>Condemned.</i>
Computing	249	16	2
Counter	38	3	....
Spring	389	8	13
Beam	162	11	2
Wagon	40	11	....
Weights	14	....	....
Measuring pumps	8	....	....
Tapes, counter tacks and yards.....	269	....	....
Barrels, boxes, crates and baskets.....	2	....	....
Berry boxes	700	....	1,145
Miscellaneous	282	....	....
Total, exclusive of berry boxes.....	1,453	49	17

CITY OF CINCINNATI.

J. J. KINNEY, *Sealer*.

SCALES:	<i>Adjusted. and Ordered</i>		
	<i>Sealed.</i>	<i>Repaired.</i>	<i>Condemned</i>
Computing	1,333	....	....
Counter	2,240	....	438
Spring	22	....	....
Beam	466	....	....
Wagon	39	....	....
Platform	447	....	....
Dormant	298	....	....
Weights	6,075	113	....
Dry measures	60,449	....	1,910
Liquid measures	4,026	....	151
Milk bottles	2,312	....	230
Measuring pumps	283	....	....
Tapes, counter tacks and yards.....	3,541	....	372
Barrels, boxes, crates and baskets.....	575	....	73
Berry boxes	525	....	165
Milk, oil and ice cream cans.....	353	....	17
Total, exclusive of milk bottles and berry boxes	80,147	113	2,961

CITY OF CLEVELAND.

WILLIAM Q. RADCLIFFE, *Sealer.*

SCALES:	<i>Adjusted. and Ordered</i>		
	<i>Sealed.</i>	<i>Repaired.</i>	<i>Condemned.</i>
Computing	4,478	200	....
Counter	5,152	226	....
Spring	8,158	416	....
Beam	1,432	10	....
Wagon	296	217	....
Platform	3,736	....	78
Dormant	537	....	....
Weights	42,475	76	8
Dry measures	4,265	....	398
Liquid measures	322	....	33
Milk bottles	688,816	....	514
Measuring pumps	136	18	....
Milk, oil and ice cream cans.....	20,589	....	1,011
Miscellaneous	109	....	....
Total, exclusive of milk bottles.....	91,684	1,163	1,528

CITY OF COLUMBUS.

L. M. ORT, *Sealer.*

SCALES:	<i>Adjusted. and Ordered</i>		
	<i>Sealed.</i>	<i>Repaired.</i>	<i>Condemned.</i>
Computing	846	188	2
Counter	1,115	68	19
Spring	618	148	10
Beam	19	....	....
Wagon	178	73	....
Hopper	1	....	....
Platform	699	60	....
Dormant	94	6	....
Weights	7,367	26	8
Berry boxes .....	....	....	8,780
Milk, oil and ice cream cans.....	260	....	2
Total, exclusive of berry boxes.....	11,197	568	41

CITY OF DAYTON.

C. A. SCHULTZ, *Sealer*.

SCALES:	<i>Adjusted. and Ordered</i>		
	<i>Sealed.</i>	<i>Repaired.</i>	<i>Condemned.</i>
Computing	550	220	6
Counter	180	80	24
Spring	212	100	45
Beam	75	35	10
Wagon	80	35	2
Hopper	2	1	....
Platform	165	50	4
Dormant	85	18	....
Penny-in-slot	2	2	....
Suspension	8	4	....
Weights	1,435	720	165
Dry measures	2,465	....	850
Liquid measures	840	....	225
Tapes, counter tacks and yards.....	....	....	78
Barrels, boxes, crates and baskets.....	75	....	99
Berry boxes .....	....	....	250
Milk, oil and ice cream cans.....	495	....	132
Total, exclusive of berry boxes.....	6,669	1,265	1,640

CITY OF ELYRIA.

W. F. SUMP, *Sealer*.

SCALES:	<i>Adjusted. and Ordered</i>		
	<i>Sealed.</i>	<i>Repaired.</i>	<i>Condemned.</i>
Computing	271	66	....
Counter	195	10	1
Spring	159	....	15
Wagon	32	8	1
Hopper	6	....	....
Platform	142	20	1
Dormant	12	2	....
Suspension	5	1	....
Weights	787	4	3
Milk bottles	10,865	....	....
Measuring pumps	22	3	....
Tapes, counter tacks and yards.....	770	....	2
Barrels, boxes, crates and baskets.....	....	....	6
Berry boxes	850	....	25
Milk, oil and ice cream cans.....	284	....	45
Total, exclusive of milk bottles and berry boxes	2,685	114	74

CITY OF LIMA.

PETER LAUGHLIN, *Sealer*.

SCALES:	<i>Adjusted. and Ordered</i>		
	<i>Sealed.</i>	<i>Repaired.</i>	<i>Condemned.</i>
Computing	2	....	....
Spring	1	....	....
Beam	3	....	....
Wagon	2	....	....
Platform	2	....	....
Totals	10	....	....

CITY OF LORAIN.

H. H. GRIFFITH, *Sealer*.

SCALES:	<i>Adjusted. and Ordered</i>		
	<i>Sealed.</i>	<i>Repaired.</i>	<i>Condemned.</i>
Computing	136	9	....
Counter	143	....	5
Spring	193	....	33
Wagon	11	2	....
Hopper	1	....	....
Platform	97	....	....
Dormant	3	....	....
Suspension	2	....	....
Weights	676	....	19
Liquid measures	76	....	11
Milk bottles	19,970	....	....
Measuring pumps	15	2	....
Tapes, counter tacks and yards.....	47	....	....
Milk, oil and ice cream cans.....	1,292	....	....
Total, exclusive of milk bottles.....	2,692	13	68

CITY OF EAST LIVERPOOL.

THOMAS ANDERSON, *Sealer*.

SCALES:	<i>Adjusted and Ordered</i>		
	<i>Sealed.</i>	<i>Repaired.</i>	<i>Condemned.</i>
Computing	157	4	....
Counter	52	3	23
Spring	94	....	39
Beam	32	....	2
Wagon	18	....	1
Platform	63	1	....
Weights	363	....	....
Measuring pumps	24	....	....
Berry boxes	400,000	....	60,000
Milk, oil and ice cream cans.....	413	....	14
Total, exclusive of berry boxes.....	1,216	8	79

EXECUTIVE DOCUMENTS.

CITY OF NEWARK.

B. F. WHITE, *Sealer*.

SCALES:	<i>Adjusted and Ordered</i>		
	<i>Sealed.</i>	<i>Repaired.</i>	<i>Condemned.</i>
Computing	137	20	1
Counter	38	....	....
Spring	45	....	1
Beam	12	....	....
Wagon	38	....	2
Hopper	2	....	....
Platform	135	30	2
Weights	1,215	....	28
Measuring pumps	2	....	....
Milk, oil and ice cream cans.....	47	....	....
Miscellaneous	2	....	....
Total	1,673	50	34

CITY OF NORWOOD.

G. S. TROUT, *Sealer*.

SCALES:	<i>Adjusted and Ordered</i>		
	<i>Sealed.</i>	<i>Repaired.</i>	<i>Condemned.</i>
Computing	77	24	....
Counter	55	8	3
Beam	3	....	....
Wagon	7	1	....
Platform	30	14	....
Dormant	3	....	....
Weights	275	15	....
Dry measures	238	....	82
Liquid measures	168	....	2
Measuring pumps	8	3	....
Tapes, counter tacks and yards.....	13	....	15
Total	877	65	102

CITY OF SANDUSKY.

W. W. KUEBELER, *Sealer*.

SCALES:	<i>Adjusted and Ordered</i>		
	<i>Sealed.</i>	<i>Repaired.</i>	<i>Condemned.</i>
Computing	224	41	3
Counter	148	28	....
Spring	63	3	21
Wagon	37	16	....
Platform	91	29	1
Dormant	10	2	....
Weights	849	210	....
Dry measures	86	....	12
Milk bottles	224	....	....
Measuring pumps	24	6	1
Milk, oil and ice cream cans.....	564	....	29
Miscellaneous	13	....	....
Total, exclusive of milk bottles.....	2,109	335	67

CITY OF STEUBENVILLE.

HENRY BOUGHER, *Sealer*.

SCALES:	<i>Adjusted and Ordered</i>		
	<i>Sealed.</i>	<i>Repaired.</i>	<i>Condemned.</i>
Computing	168	17	....
Counter	79	3	1
Spring	90	2	24
Beam	6	....	....
Wagon	8	....	1
Platform	59	8	2
Suspension	11	....	....
Weights	562	7	7
Dry measures	6	....	11
Liquid measures	49	....	5
Milk bottles	650	....	....
Measuring pumps	7	2	....
Tapes, counter tacks and yards.....	41	....	....
Berry boxes	90	....	....
Milk, oil and ice cream cans.....	393	....	261
Total, exclusive of milk bottles and berry boxes	1,479	39	312

EXECUTIVE DOCUMENTS.

CITY OF TOLEDO.

L. H. WOLFORD, *Sealer*.

SCALES:	<i>Adjusted and Ordered</i>		
	<i>Sealed.</i>	<i>Repaired.</i>	<i>Condemned.</i>
Computing	1,059	417	....
Counter	745	166	2
Spring	237	89	24
Beam	17	4	....
Wagon	122	59	....
Hopper	2	....	....
Platform	491	135	....
Dormant	63	27	....
Railroad track	1	....	....
Suspension	2	1	....
Weights	4,131	....	54
Dry measures	440	....	3
Liquid measures	60	....	11
Milk bottles	921,023	....	2,500
Measuring pumps	17	4	....
Tapes, counter tacks and yards.....	4	....	2
Barrels, boxes, crates and baskets.....	2	....	1
Berry boxes	100	....	....
Milk, oil and ice cream cans.....	100	....	15
<hr/>			
Total, exclusive of milk bottles and berry boxes	7,493	902	112

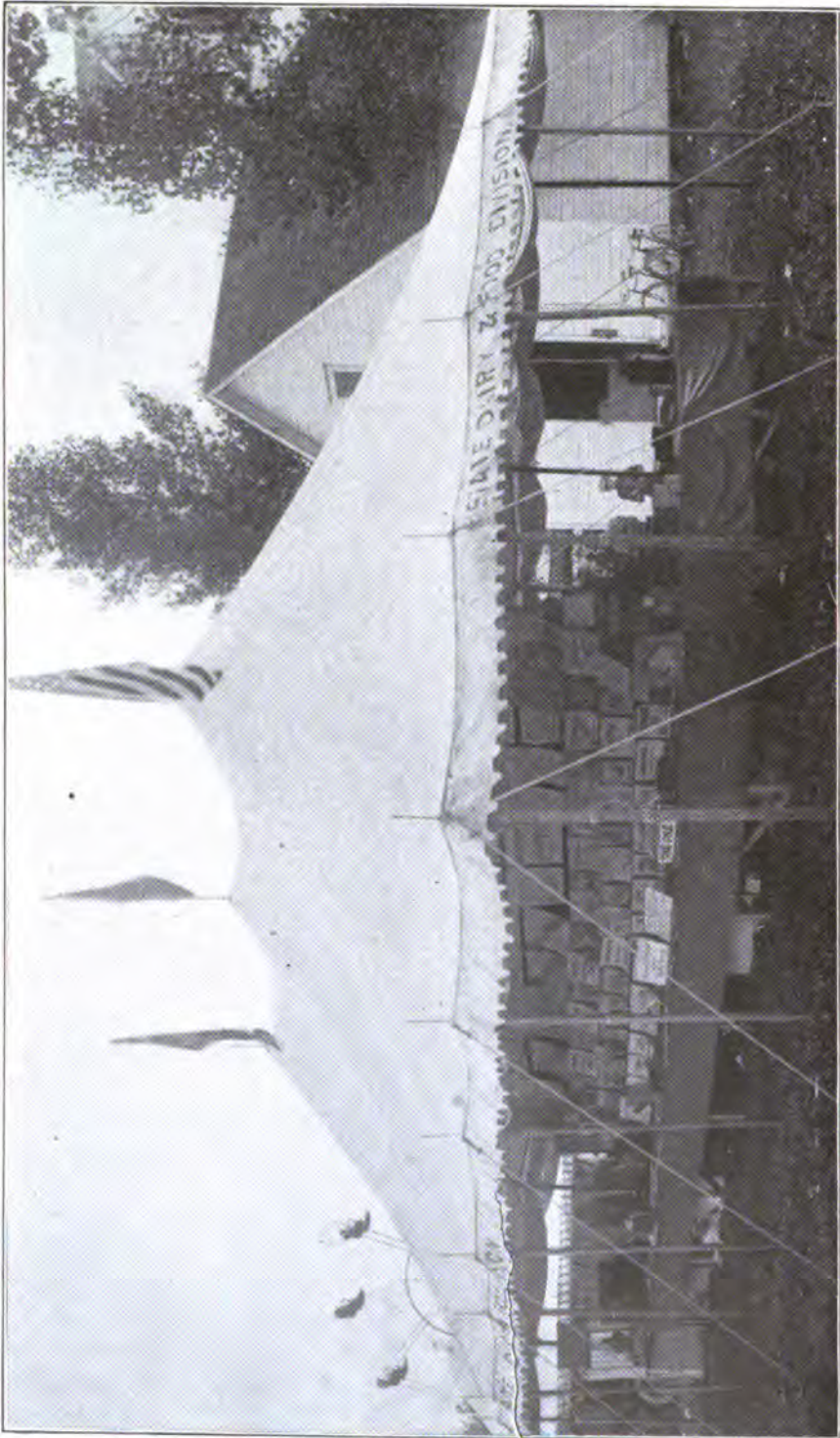
CITY OF WARREN.

DONALD McCURDY, *Sealer*.

SCALES:	<i>Adjusted. and Ordered</i>		
	<i>Sealed.</i>	<i>Repaired.</i>	<i>Condemned.</i>
Computing	32	1	....
Counter	70	8	....
Spring	7	....	....
Wagon	8	....	....
Platform	32	....	....
Suspension	5	....	....
Weights	396	28	....
Milk bottles	3,241	....	....
Measuring pumps	2	....	....
Milk, oil and ice cream cans.....	25	....	....
<hr/>			
Total, exclusive of milk bottles.....	577	37	....

CITY OF ZANESVILLE.
EMANUEL EPPLEY, *Sealer.*

SCALES:	<i>Adjusted. and Ordered</i>		
	<i>Scaled.</i>	<i>Repaired.</i>	<i>Condemned.</i>
Computing	110	....	....
Counter	49	....	....
Spring	35	....	....
Beam	23	....	....
Wagon	5	....	....
Platform	77	....	....
Dormant	2	....	....
Penny-in-slot	2	....	....
Suspension	443	....	....
Weights	177	....	....
Liquid measures	218	....	....
Total	1,141	....	....



County Fair Exhibit.

FAIR EXHIBITS.

COUNTY FAIRS.

With a thoroughness never before attempted, the Dairy and Food Division, during the past year, has made use of displays at the fairs for arousing public interest in the work the division is doing to promote sanitary conditions and to insure the manufacture and sale of pure and wholesome food and drug products in the state. In former years the division made exhibits only at the Ohio State Fair, but on account of many urgent requests received from County Agricultural Societies for state department exhibits at their county fairs, the Agricultural Commission of Ohio arranged for the various divisions of the Commission to give exhibitions illustrative of their work, particular care being taken to distribute the exhibits so as to give to the largest number of the county fairs possible a share of the state's educational displays.

Assignments for the Dairy and Food Division were made to the Ashtabula County Fair, Jefferson, the week of August 18th; Trumbull County Fair, Kinsman, week of August 25; Montgomery County Fair, Dayton, week of September 8; Paulding County Fair, Paulding, week of September 15; Sandusky County Fair, Fremont, week of September 22; Allen County Fair, Lima, week of September 29; Butler County Fair, Hamilton, week of October 6.

An exhibition tent, 28 by 51 feet, was purchased and special packing cases were procured in which could be transported the equipment and displays. Inspectors representative of the division attended the exhibit and displayed articles pertaining to the various bureaus on racks in the center of the tent, and imparted to the spectators information concerning the exhibit and the work of the division.

The following were the principal features of the exhibit:

Samples of foods, drinks and drugs, etc., showing comparison in adulterated and unadulterated articles; sanitary and insanitary conditions in various phases of food producing industry; dissemination of information relating to the administration of the Dairy, Food, Drug and Weights and Measures law; special display of eggs of many grades in various stages of decomposition, and candling devices used in determining their quality; photographs of different conditions, lawful and unlawful, and placards representing them; an assortment of fraudulent weights and measures which have been condemned and confiscated; packages and labels with analysis of fake, pure and impure, drugs and patent medicines; special display of opium smoking outfits, various utensils used in cooking and preparing opium, cocaine and morphine syringes and samples of narcotics.



Exhibit of the Ohio Canneries at the Ohio State Fair, 1914.

OHIO STATE FAIR.

The most important exhibition of the Dairy and Food Division was that made at the Ohio State Fair, during the week of August 31st. At this fair an exhibit of greatly enlarged proportion, covering a floor space aggregating more than 1500 square feet, was given in the Woman's building. A feature that created such great interest in former years, and one still of supreme interest, to all visitors, was the exhibit contrasting a sanitary and an insanitary grocery. The booths occupied by this exhibit excited special attention and were favorably mentioned by the press. The *Modern Grocer*, Chicago, September 26, 1914, published a vivid description of the exhibit which is here reproduced:

"One of the chief centers of attraction at the Ohio State Fair held at Columbus early this month was that section of the dairy and food exhibit set apart for the sanitary and insanitary grocery stores. The comparison of the old-time, slipshod and 'before-the-war' methods, though perhaps a little exaggerated, with the up-to-date and approved methods now generally employed, excited much comment, indicating that the subject of food handling is a live one with the average consumer.

"Two booths were occupied by the sanitary and insanitary grocery stores. In the former, nearly all of the products were in neat packages, or the bulk goods were displayed in neat dust, dirt and vermin proof display cases, space was economized and the entire grocery was clean and attractive. With the insanitary one, however, conditions were different. The goods were piled on the shelves in a jumbled mass, while the products sold in bulk were exposed to flies and vermin.

"This striking contrast between a thoroughly sanitary and thoroughly insanitary grocery, attracted this year even more attention than it did in previous years, for the reason that people have learned to look for this exhibit. The crowds were constantly about these two booths and the remarks made by housewives, particularly, indicate that the effort of the department has had much to do with causing the public to insist upon sanitary conditions surrounding their food supply.

"Another striking difference between the two classes of groceries was the conservation of space, the evidence of order and system and the ease with which a customer can select the commodity he wants by seeing a sample so well displayed. Inspectors of the department and experts in the arrangement and sale of food products occupied these booths and explained to every inquirer the purpose of the exhibit."

Aside from the sanitary and insanitary grocery exhibit, the display of the Dairy and Food Division at the Ohio State Fair was essentially the same as that shown at the county fairs, except that it was on a larger and more complete scale. Each bureau occupied a special booth and had the opportunity of displaying its exhibit to the best advantage.

The exhibit of the Ohio Canneries was of special interest to the housewives, and consisted of various products put up under the up-to-date system of sanitary regulation and inspection instituted by the Dairy

and Food Division. Ohio canned products are becoming more generally regarded as among the best quality of canned goods obtainable; due largely to the co-operation of the canners who, with few exceptions, are aiding the division in its efforts to have the Ohio canning factories operated under the most modern and approved sanitary methods.

SUMMARY

(115)

SUMMARY.

The following table gives a list of articles analyzed by chemists from November 16, 1913 to November 15, 1914, both inclusive, the number of samples of each product, the number passed and the number not passed.

Articles.	Samples Passed.	Samples not Passed.	Total.	Grand Total.
<i>Canned Vegetables and Fruits</i>				15
Catsup	1		1	
Datenut, Butter	1		1	
Grapefruitola marmalade	1		1	
Jam, Corn Syrup	1		1	
Jam, Fruit	1		1	
Jell	1		1	
Ketchup	3	2	5	
Pickles, Dill	1		1	
Pork and Beans		1	1	
Preserves	1		1	
Preserves, Strawberry	1		1	
<i>Dairy Products</i>				195
Butter	30	27	57	
Butter, cheese	1		1	
Butter Fat	1		1	
Butter, Process	5		5	
Butter, Renovated	1	3	4	
Buttermilk	1		1	
Cheese	3	3	6	
Cheese, Pimento	1		1	
Cream	4		4	
Cream, Whipped	1		1	
Milk	52	59	111	
Milk, canned	1		1	
Milk, condensed	2		2	
<i>Drinks</i>				45
Ade, Grape	1		1	
Ale, Ginger	1		1	
Beer, Root	2		2	
Brew, A	1		1	
Brew, Imitation German	1		1	
Cider	6	3	9	
Cider, Crab		1	1	
Cider, Grape		1	1	
Cider, Pineapple		1	1	
Coca Cola	1		1	
Cocoa	1		1	
Grape Juice	7	3	10	
Orangeade	1		1	
Phosphate, Cherry	1		1	
Pop		1	1	
Punch, Cherry Fruit		1	1	
Punch, Cuban		1	1	
Punch, Orange Fruit		1	1	
Soda, Lemon	1		1	
Soda, Orange		1	1	
Water	1		1	
Water, Mineral		1	1	
Wine	4		4	
Wine, Pure Catawba	1		1	

SUMMARY — Continued.

Articles.	Samples Passed.	Samples not Passed.	Total.	Grand Total.
<i>Drugs</i>				342
Ab-Sorb-Al		1	1	
Acetate Juniper and Potassium.....	1		1	
Alcohol	5		5	
Alkaline, Digestive		1	1	
Alkaline, Digestive Elixir.....	1		1	
Ambrew	1		1	
Ammonia, Aromatic Spts. of.....	1		1	
Amolax		1	1	
Antikamnia and Codeine tablets.....	1		1	
Antidote, Kohler	1		1	
Arnica, Tr.....	1		1	
Arnica, Flowers Fl. Ext.....	4		4	
Aspirin	1	1	2	
Asthma Remedy	1		1	
Balm	1		1	
Bay Rum	5	12	17	
Belladonna, Fl. Ex.....	1		1	
Bromide, Comp. Syr.....	1		1	
Buchu Fl. Ext.....	4		4	
Buchu Leaves, Fl. Ext.....	1		1	
Buchu Juniper and Acetate Potash, Elixir.....		1	1	
Buchu Juniper and Potassium Acetate, Elixir		2	2	
Burt's Standard Remedy.....	1		1	
Calcium Acid Phosphate, made from rock.....	1		1	
Calcium Acid Phosphate made from Bone.....	1		1	
Camphor, Spts.	2	3	5	
Camphor, Comp. Spts.....	1		1	
Cannabis, Indica Tr.....	2		2	
Carbolic Acid	1		1	
Cascara Aromatic Fl. Ex.....	4		4	
Cascara Sagrada Fl. Ex.....	1		1	
Catarrh Cure	1		1	
Catarrh Snuff	1		1	
Chi-Ches-ter's Pills.....		1	1	
Citro-lax	1		1	
Clearola		1	1	
Cocaine	20	9	29	
Cocaine, Hydrochloride	1		1	
Cod Liver Oil Compound.....	1		1	
Condurango, Elix.	1		1	
Cordu Syrup	1		1	
Cream (H ² O)	1		1	
Cream Bold Sulphur.....		1	1	
Cream, Cold		5	5	
Cream, Methyl		1	1	
Cream Sulphur		1	1	
Dandelion F. Ext.....	5		5	
Digitalis Fl. Ext.....	2		2	
Digitalis, Infusion of Compound Vinous.....	2		2	
Epilepsy Cure		1	1	
Ergot, F. Ext.....	1	1	2	
Ergan, Fluid		1	1	
Ginger Ext. Jamaica.....	1		1	
Gloriatone		1	1	
Glycerine	1		1	
Golden Seal Fl. Ex.....	3		3	
Hair Fertilizer, Ellis.....	1		1	

SUMMARY — Continued.

Articles.	Samples Passed.	Samples not Passed.	Total.	Grand Total.
<i>Drugs — Continued.</i>				
Hair Tonic	2	1	3	
Hair Tonic, Quinine.....	1	.....	1	
Heroin, Tablets .....	.....	1	1	
Hydrastis Fluid Ext.....	3	.....	3	
Hydrastis Comp. Tab.....	1	.....	1	
Hydrastonal	1	.....	1	
Hydraspecial	1	.....	1	
Hydrogen Peroxide	9	5	14	
Immediate Relief	1	.....	1	
Iodine	3	11	14	
Iron and Strychnine, Elixir Bark.....	1	.....	1	
Jap-A-Le .....	.....	1	1	
Juice, Pineapple	1	.....	1	
Juice, Plant	1	.....	1	
Lime, Glyco	1	.....	1	
Liniment .....	.....	1	1	
Liquor cure .....	.....	1	1	
McGibney's Discovery .....	.....	1	1	
Magnesia	4	2	6	
Magnesia, Bisurated	1	.....	1	
Medicine	1	.....	1	
Morphine	21	1	22	
Mothersills Seasick Remedy.....	1	.....	1	
Neroxin .....	.....	1	1	
Nerv-worth .....	.....	1	1	
Nitre, Sweet Spts.....	2	.....	2	
Nux Vomica Fl. Ext.....	5	.....	5	
Od-o-Ro-Na	1	.....	1	
Oils, Antiseptic	1	.....	1	
Oil, Camphorated	2	1	3	
Oil, Rattlesnake .....	.....	1	1	
Oil, Wintergreen	1	1	2	
Ointment, Blue .....	.....	1	1	
Opium	5	5	10	
Opium, Tr.	4	2	6	
Opium Cure .....	.....	1	1	
Opii, Comp. Tr.....	1	.....	1	
Opium, Deod. Tr.....	2	.....	2	
Opii Comp. Tr.....	1	.....	1	
O'Zell	1	.....	1	
Optona .....	.....	1	1	
Paregoric	1	.....	1	
Passiflora, Comp. Elix.....	1	.....	1	
Peppermint, Ext.	1	1	2	
Peptol .....	.....	1	1	
Petrex Comp. ....	.....	1	1	
Pepsin and Bismuth Elixir.....	1	.....	1	
Pepsin, Elixir Lactated.....	2	1	3	
Phosphate, Effervescent Sodium.....	2	.....	2	
Phosphate Sodium .....	.....	1	1	
Powders	2	.....	2	
Powders, Dovers	1	.....	1	
Powder, Face	1	.....	1	
Powders, Joy .....	.....	1	1	
Powders, Seidlitz	1	.....	1	
Protone .....	.....	1	1	
Quinine	1	.....	1	
Rhubarb, Fluid Ex.....	2	.....	2	

SUMMARY — Continued.

Articles.	Samples Passed.	Samples not Passed.	Total.	Grand Total.
<i>Drugs — Concluded.</i>				
Ruetone		1	1	
Salts, Epsom	2		2	
Salts, Jad		1	1	
Saltogyn		1	1	
Samoline	1		1	
Sanatogen		1	1	
Sanatone		1	1	
Santal Oil Capsules, Pure E. S.	1		1	
Sargol	1		1	
Sarsaparilla Comp. Fl. Ex.	3		3	
Senna, Fluid Ex.	2		2	
Sodium Salicylate from Oil Wintergreen.	2	1	3	
Syrup, Cough	1		1	
Syrup, Neutralizing		1	1	
Syrup, Vinegar		1	1	
Sodium Salicylate from Natural Oil	1	1	2	
Sodagen		1	1	
Sofose		1	1	
Spearoxide	1		1	
Stomachic, Comp. Balm.	1		1	
Stom-As-Oil		1	1	
Tablets	5		5	
Tablets, Ajax Cold	1		1	
Tablets, Bismuth Sub Nitrate.	1		1	
Tablets, Codeine	6	1	7	
Tablets — Joy	1		1	
Tablets, Migraine	1	1	2	
Tablets, Morphine Sul.	2		2	
Tobacco Cure	1		1	
Veburumm, Comp. Mix.	1		1	
Vin. Mariana	1		1	
Wine of Cocoa	1		1	
Witch Hazel	5	5	10	
Witch Hazel Extract		2	2	
Yenshee		2	2	
<i>Samples taken for evidence in Pharmacy prosecutions</i>				277
Samples with no name given.	3	19	22	
Acetanilide	1		1	
Aconite, Tr.		1	1	
Ajax Cold Tablets	1		1	
Alcohol	1	1	2	
Aspirin		1	1	
Belladonna, Tr.	2	1	3	
Bichloride Mercury Tablets.	1		1	
Blisters	1		1	
Canthrox		1	1	
Carbolic Acid	2	1	3	
Cigars	5		5	
Cigarettes	26		26	
Citrox		1	1	
Cocaine	29	8	37	
Corn Cure	1		1	
Crystos		1	1	
Distemper Medicine	1		1	
Drops, German	1		1	
Drops, Red	1		1	
Eptol		1	1	

SUMMARY — Continued.

Articles.	Samples Passed.	Samples not Passed.	Total.	Grand Total.
<i>Samples — Concluded.</i>				
Fair Plex		1	1	
Heroin	4	3	7	
Iodine, Tr.		5	5	
Iodine and Phenol.....		1	1	
Laxa Pirin	1		1	
Liniment	1		1	
Magnesia	1		1	
May-O-Tone		1	1	
Morphine	38	43	81	
Ointment		1	1	
Opium	26	19	45	
Paregoric		1	1	
Peppermint	1		1	
Phosphate, Soda	1		1	
Powders, Dovers	1	1	2	
Pills	1		1	
Spurmax		1	1	
Syrup, Bell	1		1	
Tablets	3		3	
Tablets, Cold	1		1	
Tar and Honey	1		1	
Tobacco	4		4	
Tobacco, Dark Leaf.....	1		1	
Tobacco, Light Leaf.....	1		1	
Tobacco, Natural	1		1	
<i>Flavors, Essences and Extracts</i>				28
Fru Tu		1	1	
Ginger Essence	1		1	
Grape Extract		1	1	
Lemon Extract	3	1	4	
Peppermint, Extract		1	1	
Strawberry Extract	1		1	
Vanilla Extract	13	5	18	
Vanilla Compound		1	1	
<i>Maple Products</i>				31
Maple Sugar	8	5	13	
Maple Sugar Cream.....		1	1	
Maple Syrup	9	8	17	
<i>Fish, Meat and Oysters</i>				29
Hamburg	3	4	7	
Oysters	14	2	16	
Salmon	1		1	
Sausage	3	1	4	
Weiner Wurst	1		1	
<i>Miscellaneous</i>				388
Beeswax	1		1	
Bis-Ko		1	1	
Bran	1		1	
Butter Color	2		2	
Butter Flavor	1		1	
Candy	7	1	8	
Cocoanut	1		1	
Coffee	5	1	6	
Do-Ne-Do	1	1	2	
Egg-O-Lene	1		1	
Egg-Re-Pla-Cer	1		1	
Exterminator, Bug	1		1	
Flour	14	5	19	

SUMMARY — Concluded.

Articles.	Samples Passed.	Samples not Passed.	Total.	Grand Total.
<i>Miscellaneous — Concluded.</i>				
Flour, Buckwheat	17	7	24	
Flour, Doughnut	1		1	
Flour, Pancake	1		1	
Flour, Winter Wheat	1		1	
Fruity Dessert	1		1	
Granules	1		1	
Honey	3		3	
Horse-radish	1	1	2	
Ice Cream	4		4	
Ice Cream Coloring		1	1	
Kaffee Hag	1		1	
Ka-Ko	4	4	8	
Kidneys		1	1	
Lard	8	2	10	
Lemamel	1		1	
Macaroni	2	1	3	
Marshmallow Creme	1	1	2	
Marshmallow Whip	1		1	
Mapol		1	1	
Meal, Bone	1		1	
Meal, Corn	1		1	
Mince Meat	16		16	
Mix, Biscuit	1	1	2	
Mix, Cake	2	3	5	
Mix, Cruller	1	1	2	
Mustard		2	2	
Noodles		1	1	
Oats, Mother's	1		1	
Oil, Linseed	8	2	10	
Oil, Olive	3	2	5	
Oil, Sweet		1	1	
Oleomargarine	5	2	7	
Paint	4		4	
Peanut Butter	1	1	2	
Pepper	2		2	
Pepper, black	3		3	
Peppermint, spearminted	1		1	
Pepperika	1		1	
Powder, Baking	1		1	
Powder, Custard		1	1	
Powder, Orange	1		1	
Potatoes	1		1	
Puddine	1		1	
Snow Mellow	2		2	
Soap Chip	2		2	
Spaghetti	2		2	
Sugar	1		1	
Syrup	5	2	7	
Tea	2		2	
Vinegar	62	120	182	
Vinegar, Syrup		1	1	
Whiskey	5		5	

ARTICLES TAKEN FOR TESTIMONY IN PROSECUTIONS, NON-CON-
FORMITY TO LABELING LAWS AND THOSE TESTED BY
INSPECTORS.

Articles.	Number of Samples Taken.	Total.
Total		859
Drugs —		
Ammonia	5	
Bay Rum	4	
Cocaine	24	
Creolin	1	
Elixir	1	
Fennel and Catnip.....	1	
Hydro-Quinine	1	
Inhaler	1	
Iodine	3	
Knock Em	1	
Mixture	2	
Natura	1	
Ointment, Blue	1	
Peppermint	2	
Pepsinol	1	
Phenol	1	
Pinix	1	
Tablets, Aspirin	2	
Miscellaneous —		
Beans	3	
Beans, Vanilla	1	
Butter	34	
Butter, Apple	2	
Butterine	1	
Candy	1	
Cichorein	1	
Cider	3	
Coal Tar Color.....	1	
Cocoanut	1	
Coffee	1	
Cream	9	
Cream of Maple.....	1	
Creme De Menthe Cherries.....	1	
Eggs	28	
Extract Imitation Banana F.....	2	
Extract Lemon	6	
Extract Maple Flavoring.....	3	
Extract Imitation Pineapple.....	1	
Extract Strawberry Flavoring.....	4	
Extract Vanilla Flavor.....	12	
Extract Vanillin	1	
Flour, Buckwheat	2	
Flour, Graham	1	
Gherkins, Sweet	1	
Grape Juice	1	
Horse-radish	1	
Ice Cream	53	
Lemamel	2	
Macaroni	1	
Marshmallow Cream	1	
Maple Sugar	3	
Mapleline	1	
Meat, tainted	1	
Melorene	2	

ARTICLES TAKEN FOR TESTIMONY IN PROSECUTIONS, NON-CON-
FORMITY TO LABELING LAWS AND THOSE TESTED BY
INSPECTORS — Concluded.

Articles.	Number of Samples Taken.	Total.
<i>Miscellaneous — Concluded.</i>		
Milk	570	
Mushrooms	1	
Mustard, Prepared	1	
Nuts	4	
Noodles	1	
Oleomargarine	3	
Pastine	1	
Peanut Butter	1	
Peas, Imported Canned	1	
Pickles	1	
Pie, Lemon Filler	1	
Potatoes	1	
Soft Drinks —		
Cola	1	
Lemonade	1	
Soda, Grape	1	
<i>Miscellaneous —</i>		
Spaghetti	2	
Spinach (Imported colored)	1	
Souplets	1	
Strawberry Preserves	1	
Sugar	1	
Syrup	3	
Turpentine	1	
Vegetables, Mixed	1	
Vinegar	18	
Walnuts	1	
Total number Samples		2,209

LIST OF ARTICLES ON WHICH PROSECUTIONS HAVE BEEN
BROUGHT DURING THE YEAR, NOVEMBER 16, 1913, TO
NOVEMBER 15, 1914, BOTH INCLUSIVE.

Articles.	Number of Cases.	Total.
Babcock Test, False Determination	1	
Butter, Process	1	
Butter, Renovated, no stamp	4	
Drugs		
Alcohol	1	
Bay Rum	3	
Belladonna	1	
Buchu Elixir	1	
Oil, Imitation Rattlesnake	1	
Ointment, Blue	1	
Opium	2	
Peroxide of Hydrogen	1	
Phosphate, Sodium	1	

LIST OF ARTICLES ON WHICH PROSECUTIONS HAVE BEEN
BROUGHT DURING THE YEAR, NOVEMBER 16, 1913, TO
NOVEMBER 15, 1914, BOTH INCLUSIVE—Concluded.

Articles.	Number of Cases.	Total
Potash, Elixir Buchu Juniper and Acetate.....	1	
Powders, Dovers	1	
Tablets, Aspirin	1	
Tablets, Dovers	1	
Turpentine	1	
Witch Hazel	1	
Eggs	18	
Flour, Buckwheat	2	
Hamburger	1	
Ketchup	2	
Lard	1	
Macaroni	1	
Maple Sugar	5	
Maple Syrup	4	
Meat, tainted	1	
Milk	36	
Noodles	2	
Oleomargarine, no stamp.....	1	
Oleomargarine, serving for butter.....	11	
Oleomargarine, Colored	1	
Oleomargarine, No card.....	10	
Oil, Olive	1	
Oysters	6	
Pharmacy Cases		
Alcohol, unlawful sale of.....	1	
Carbolic Acid, unlawful sale of.....	2	
Cocaine, unlawful sale of.....	33	
Cocaine and morphine, unlawful possession of.....	7	
Dope Sales, suspicion of.....	1	
Drug Stores, unlawfully conducted.....	21	
Heroin and Cocaine in possession.....	1	
Heroin, unlawful sale of.....	1	
Iodine, unlawful sale of.....	6	
Morphine, Habitual use of.....	1	
Morphine, unlawful sale of.....	52	
Morphine, unlawful possession of.....	11	
Opium, unlawful possession of.....	14	
Opium, unlawful sale of.....	7	
Opium, smoking	1	
Pharmacist, not employing a legally registered.....	1	
Suspicious persons, as.....	2	
State Certificate not properly displayed.....	2	
Scale, unsealed	1	
Vinegar	11	
Walnuts	1	
Total Number of Prosecutions		304

FINANCIAL STATEMENT

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THE UNIVERSITY OF CHICAGO

FOR PERSONAL SERVICE.

Date.	Amount.	Total.
1914 Budget Appropriation.....	\$34,300 00	
Total		\$34,300 00
Payee.		
Bert S. Bartlow, Chief of Division, Salary, March 16, 1914, to November 15, 1914, both inclusive	\$1,420 00	
Fred C. Albrecht, Chief Inspector, Weights and Measures, salary, February 16, 1914, to November 15, 1914, both inclusive.....	1,125 00	
Hilton R. Diegle, Assistant Inspector, Weights and Measures, salary, April 16, 1914, to November 15, 1914, both inclusive.	700 00	
S. Ernest Hickerson, Chief Clerk, salary, February 16, 1914, to November 15, 1914, both inclusive	900 00	
Annie C. Hoge, Bookkeeper, salary, May 16, 1914, to November 15, 1914, both in- clusive	600 00	
Myrtle H. Morgan, Stenographer, salary, May 1, 1914, to November 15, 1914, both inclusive	541 66	
Bessie M. Strode, Clerk, salary, April 1, 1914, to April 15, 1914, both inclusive....	30 00	
H. S. Mesloh, Chief Inspector, Dairy Bu- reau, salary, February 16, 1914, to No- vember 15, 1914, both inclusive.....	900 00	
Clinton K. Nixon, Dairy Inspector, salary, February 16, 1914, to November 15, 1914, both inclusive	900 00	
C. A. Pontius, Dairy Inspector, salary, Feb- ruary 16, 1914, to November 15, 1914, both inclusive	900 00	
Daniel B. Wagner, Dairy Inspector, salary, February 16, 1914, to November 15, 1914, both inclusive	900 00	
Thomas C. Gault, Dairy Inspector, salary, February 16, 1914, to November 15, 1914, both inclusive	900 00	
Septimus Mawer, Chief Inspector of Food Bureau, salary, February 16, 1914, to No- vember 15, 1914, both inclusive.....	900 00	
Charles A. Corry, Food Inspector, salary, February 16, 1914, to November 15, 1914, both inclusive	900 00	
Lyman W. Campbell, Food Inspector, salary, February 16, 1914, to November 15, 1914, both inclusive	900 00	
Frank A. Fisher, Food Inspector, salary, February 16, 1914, to November 15, 1914, both inclusive	900 00	
A. G. Masterson, Food Inspector, salary, February 16, 1914, to November 15, 1914, both inclusive	900 00	

FOR PERSONAL SERVICE—Concluded.

Date.		Amount.	Total.
	Wm. C. Gear, Food Inspector, salary, February 16, 1914, to November 15, 1914, both inclusive	900 00	
	Jacob M. Styers, Food Inspector, salary, February 16, 1914, to November 15, 1914, both inclusive	900 00	
	James F. Robeson, Food Inspector, salary, February 16, 1914, to November 15, 1914, both inclusive	900 00	
	Merion J. Dotter, Food Inspector, salary, May 1st, 1914, to November 15, 1914, both inclusive	650 00	
	Willard R. Hower, Chief Inspector, Drug Bureau, salary, February 16, 1914, to November 15, 1914, both inclusive.....	900 00	
	Chas. T. Barman, Drug Inspector, salary, February 16, 1914, to November 15, 1914, both inclusive	900 00	
	E. W. Harrington, Drug Inspector, salary, February 16, 1914, to November 15, 1914, both inclusive	900 00	
	Addison C. Johnston, Narcotic Inspector, salary, February 16, 1914, to November 15, 1914, both inclusive.....	900 00	
	George Oakley, Narcotic Inspector, salary, May 16, 1914, to November 15, 1914, both inclusive	600 00	
	Lyman G. Bingham, Cannery Inspector, salary, February 16, 1914, to November 15, 1914, both inclusive.....	900 00	
	Lee Roy Robertson, Cannery Inspector, salary, balance due date of decease.....	65 60	
	Total paid from "Personal Service".....		\$22,832 26
Nov. 15	Balance		\$11,467 74

STATEMENT OF APPROPRIATIONS AND EXPENDITURES FOR
SALARY OF COMMISSIONER.

Date.		Amount.	Total.
1913. Nov. 16	Balance	\$711 54	
	Total		\$711 54
	Payee.		
	November 16, 1913, to December 31, 1913, both inclusive, Member Agricultural Com- mission of Ohio, S. E. Strode.....	\$624 99	
	Total paid for salary.....		\$624 99
1914. Nov. 14	Balance		\$86 55
	Lapsed to General Revenue.....		\$86 55

FOR EXPENSES OF COMMISSIONER.

Date.		Amount.	Total.
1913. Nov. 16	Balance	\$352 75	
	Total		\$352 75
	Payee.		
	November 16, 1913, to February 15, 1914, both inclusive, Member Agricultural Com- mission of Ohio, S. E. Strode.....	\$158 00	
	Total paid for expenses.....		\$158 00
1914. Nov. 14	Balance		\$194 75
	Lapsed to General Revenue.....		\$194 75

FOR SALARIES OF ASSISTANT COMMISSIONERS.

Date.		Amount.	Total.
1913. Nov. 16	Balance	\$850 00	
	Total		\$850 00
	Payee.		
	November 16, 1913, to February 15, 1914, both inclusive	\$300 00	
	Total paid for salary.....		\$300 00
	Balance		\$550 00
1914. Nov. 14	Lapsed to General Revenue.....		\$550 00

FOR EXPENSES OF ASSISTANT COMMISSIONERS.

Date.		Amount.	Total.
1913. Nov. 16	Balance	\$973 55	
	Total		\$973 55
	Payee.		
	Charles A. Corry, November 16, 1913, to February 15, 1914, both inclusive.....	\$154 81	
	Total		\$154 81
	Balance		\$818 74
1914. Nov. 14	Lapsed to General Revenue.....		\$818 74

FOR SALARY OF CHIEF INSPECTOR.

Date.		Amount.	Total.
1913. Nov. 16	Balance	\$575 35	
	Total		\$575 35
	Payee.		
	Bert S. Bartlow, Chief Inspector, November 16, 1913, to February 15, 1914, both inclusive	\$580 00	
	Total paid for salary.....		\$580 00
1914. Nov. 14	Balance		\$45 35
	Lapsed to General Revenue.....		\$45 35

FOR SALARY OF CHIEF CLERK.

Date.		Amount.	Total.
1913. Nov. 16	Balance	\$330 26	
	Total		\$330 26
	Payee.		
	Fred W. Leu, November 16, 1913, to December 22, 1913, both inclusive.....	\$119 74	
	S. Ernest Hickerson, December 23, 1913, to November 15, 1914, both inclusive.....	176 32	
1914. Nov. 14	Total		\$296 06
	Balance paid for salary.....		\$34 20
	Lapsed to General Revenue.....		\$34 20

FOR SALARY OF CHIEF INSPECTOR OF WEIGHTS AND MEASURES.

Date.		Amount.	Total.
1913. Nov. 16	Balance	\$375 00	
	Total		\$375 00
	Payee.		
	Fred C. Albrecht, Chief Inspector, November 16, 1913, to November 15, 1914, both inclusive	\$375 00	
	Total paid for salary.....		\$375 00

FOR SALARIES OF TWO ASSISTANT INSPECTORS OF WEIGHTS AND MEASURES.

Date.		Amount.	Total.
1913. Nov. 16	Balance	\$600 00	
	Total		\$600 00
	Payee.		
	Hilton R. Diegle, Assistant Inspector, November 16, 1913, to April 15, 1914, both inclusive	\$500 00	
	S. Ernest Hickerson, Assistant Inspector, November 16, 1913, to December 23, 1913, both inclusive	96 26	
	Total paid for salaries.....		\$596 26
1914. Nov. 14	Balance		\$3 74
	Lapsed to General Revenue.....		\$3 74

FOR SALARIES OF TWO CLERKS.

Date.		Amount.	Total.
1913. Nov. 16	Balance	\$900 00	
	Total		\$900 00
	Payee.		
	Annie C. Hoge, Bookkeeper, November 16, 1913, to May 15, 1914, both inclusive....	\$583 33	
	Hazle Baldwin, Extra Work.....	39 24	
	Merion J. Dotter, April 16, 1914, to April 30, 1914, both inclusive.....	48 33	
	Nettie E. Frantz, December 29, 1913, to February 15, 1914, both inclusive, Clerk of Agricultural Commission of Ohio.....	111 90	
	Total		\$782 80
	Balance		\$117 20
1914. Nov. 14	Lapsed to General Revenue.....		\$117 20

FOR SALARIES OF EXTRA CLERKS AND INSPECTORS.

Date.		Amount.	Total.
1913. Nov. 16	Balance	\$688 23	
	Total		\$688 23
	Payee.		
	Merion J. Dotter, November 16, 1913, to April 15, 1914, both inclusive.....	\$410 00	
	Bessie M. Strode, November 16, 1913, to March 30, 1914, both inclusive.....	270 00	
	Total paid for salaries.....		\$680 00
	Balance		\$8 23
1914. Nov. 14	Lapsed to General Revenue.....		\$8 23

FOR SALARIES OF TWO INSPECTORS OF DRUGS.

Date.		Amount.	Total.
1913. Nov. 16	Balance	\$640 13	
	Total		\$640 13
	Payee.		
	Willard R. Hower, Inspector, November 16, 1913, to February 15, 1914, both inclusive.	\$300 00	
	Charles T. Barman, Inspector, November 16, 1913, to February 15, 1913, both inclusive.	300 00	
	Total paid for salary.....		\$600 00
	Balance		\$40 13
1914. Nov. 14	Lapsed to General Revenue.....		\$40 13

FOR SALARIES OF TWO INSPECTORS OF DAIRIES.

Date.		Amount.	Total.
1913. Nov. 16	Balance	\$600 00	
	Total		\$600 00
	Payee.		
	Harry S. Mesloh, November 16, 1913, to February 15, 1914, both inclusive.....	\$300 00	
	Clinton K. Nixon, November 16, 1913, to February 15, 1914, both inclusive.....	300 00	
	Total spent for salary.....		\$600 00

FOR SALARIES OF FIVE FOOD INSPECTORS.

Date.		Amount.	Total.
1913. Nov. 16	Balance	\$1,500 00	
	Total		\$1,500 00
	Payee.		
	Lyman W. Campbell, November 16, 1913, to February 15, 1914, both inclusive.....	\$300 00	
	Septimus Mawer, November 16, 1913, to February 15, 1914, both inclusive.....	300 00	
	Frank A. Fisher, November 16, 1913, to February 15, 1914, both inclusive.....	300 00	
	Almer G. Masterson, November 16, 1913, to February 15, 1914, both inclusive.....	300 00	
	William C. Gear, November 16, 1913, to February 15, 1914, both inclusive.....	300 00	
	Total paid for salary.....		\$1,500 00

FOR TRAVELING EXPENSES OF INSPECTORS OF WEIGHTS
AND MEASURES.

Date.		Amount.	Total.
1913. Nov. 16	Balance	\$1,500 37	
	Total		\$1,500 37
	Payee.		
	Fred C. Albrecht, Chief Inspector Weights and Measures, November 16, 1913, to February 15, 1914, both inclusive.....	\$44 15	
	Hilton R. Diegle, Ass't Inspector, Weights and Measures, November 16, 1913, to February 15, 1914, both inclusive.....	139 20	
	S. Ernest Hickerson, Assistant Inspector Weights and Measures, November 16, 1913, to December 23, 1914, both inclusive.	2 40	
	Total paid for expenses.....		\$185 75
	Balance		\$1,314 62
1914. Nov. 14	Lapsed to General Revenue.....		\$1,314 62

FOR CONTINGENT EXPENSES OF WEIGHTS AND MEASURES.

Date.		Amount.	Total.
1913. Nov. 16	Balance	\$458 25	
	Total		\$458 25

Date.	Payee.	Voucher Number.	Purpose.	Amount.	Total.
Dec. 30	W. & L. E. Gurley.	4887	Dies	\$4 19	
	Total				\$4 19
	Balance				\$454 06
	Added by Audit.....				1 75
					\$455 81
1914. Nov. 14	Lapsed to General Revenue.....				\$455 81

FOR INSPECTION, ANALYSIS AND PUBLICATION.

Date.		Amount.	Total.
1913. Nov. 16	Balance	\$28,362 19	
	Total		\$28,362 19

Date.	Payee.	Voucher Number.	Purpose.	Amount.	Total.
Nov. 18	O. S. Marckworth.	4811	Analyses and expenses	\$104 25	
24	Azor Thurston ...	4829	Analyses and expenses	171 00	
25	Benj. F. Gayman..	4830	Salary as Sec'y Agr.		
			Com.	80 00	
25	Wm. McPherson .	4832	Expenses	25 00	
Dec. 12	Benj. F. Gayman..	4836	Salary as Sec'y Agr.		
			Com.	80 00	
12	Chas. A. Pontius.	4841	Salary as Inspector...	100 00	
12	Daniel Wagner ..	4842	Salary as Inspector...	100 00	

FOR INSPECTION, ANALYSIS AND PUBLICATION — Continued.

Date.	Payee.	Voucher Number.	Purpose.	Amount.	Total.
12	Thomas C. Gault.	4843	Salary as Inspector...	100 00	
12	Jacob M. Styers..	4849	Salary as Inspector...	100 00	
12	James F. Robeson.	4850	Salary as Inspector...	100 00	
12	E. W. Harrington.	4853	Salary as Inspector...	100 00	
12	Lee Roy Robertson	4854	Salary as Inspector...	100 00	
12	Lyman W. Bing- ham	4855	Salary as Inspector...	100 00	
19	O. S. Marckworth.	4874	Analyses	85 00	
22	Benj. F. Gayman.	4879	Salary as Sec'y Agr. Com.	80 00	
26	H. W. Krumm, P. M.	4881	Return postal cards...	20 00	
30	Ohio State Re- formatory	4892	Desk and chair.....	58 00	
1914.					
Jan. 14	Sylvanus E. Strode	4904	Salary as Member of Agr. Com.	208 33	
14	Benj. F. Gayman.	4904	Salary as Sec'y Agr. Com.	80 00	
14	C. A. Pontius.....	4907	Salary as Inspector...	100 00	
14	Daniel B. Wagner.	4908	Salary as Inspector...	100 00	
14	Thomas C. Gault..	4909	Salary as Inspector...	100 00	
14	J. M. Styers.....	4916	Salary as Inspector...	100 00	
14	James F. Robeson.	4917	Salary as Inspector...	100 00	
14	E. W. Harrington.	4920	Salary as Inspector...	100 00	
14	Lee Roy Robertson	4923	Salary as Inspector...	100 00	
14	Lyman G. Bing- ham	4924	Salary as Inspector...	100 00	
16	B. S. Bartlow.....	4926	Expenses	9 40	
17	William Pate	4943	Analyses and expenses	92 50	
17	O. S. Marckworth.	4944	Analyses and expenses	95 00	
17	Azor Thurston ...	4945	Analyses and expenses	162 05	
21	Addison C. Johns- ton	4946	Expenses	406 28	
22	Benj. F. Gayman.	4952	Expenses	18 85	
28	Sylvanus E. Strode	4954	Salary as Member of Agr. Com.	208 33	
28	Benj. F. Gayman.	4954	Salary as Sec'y Agr. Com.	80 00	
Feb. 3	Benj. F. Gayman.	4957	Expenses	6 00	
13	C. A. Pontius.....	4963	Salary as Inspector...	100 00	
13	Daniel B. Wagner.	4964	Salary as Inspector...	100 00	
13	Thomas C. Gault..	4965	Salary as Inspector...	100 00	
13	Jacob M. Styers..	4972	Salary as Inspector...	100 00	
13	James F. Robeson.	4973	Salary as Inspector...	100 00	
13	E. W. Harrington.	4976	Salary as Inspector...	100 00	
13	Addison C. Johns- ton	4977	Salary as Inspector...	100 00	
13	Lee Roy Robertson	4978	Salary as Inspector...	100 00	
13	Lyman G. Bing- ham	4979	Salary as Inspector...	100 00	
13	Sylvanus E. Strode	4980	Salary as Member of Agr. Com.	208 33	
13	Benj. F. Gayman.	4980	Salary as Sec'y Agr. Com.	100 00	
13	Azor Thurston ...	4985	Analyses	92 65	
13	Ohio State Re- formatory	4990	Chairs	30 00	

FOR INSPECTION, ANALYSIS AND PUBLICATION — Concluded.

Date.	Payee.	Voucher Number.	Purpose.	Amount.	Total.
18	Bucher Engraving Co.	4906	Proof sheets and half tones	12 46	
18	J. G. Falconer....	4999	Salary	30 00	
17	Benj. F. Gayman.	5006	Expenses	2 35	
17	William Pate	5012	Analyses and expenses	115 25	
18	Theo. D. Wetterstroem	5019	Expenses	85 00	
18	H. W. Krumm, P. M.	5020	Postage stamps	90 18	
19	Addison C. Johnston	5025	Expenses	403 67	
21	O. S. Marckworth.	5031	Analyses and expenses	275 10	
Mar. 2	Central Union Telephone Co.	5033	Tolls	6 45	
18	Azor Thurston ...	5034	Analyses and expenses	184 95	
	William Pate	5054	Analyses and expenses	161 00	
Apr. 10	William Pate	A-15	Analyses and expenses	141 75	
10	Azor Thurston ...	A-16	Analyses and expenses	274 85	
	Subtracted by audit			4 00	
30	Bessie M. Strode.	A-59	Salary as Clerk.....	30 00	
May 15	Bessie M. Strode.	A-77	Salary as Clerk.....	30 00	
27	Bessie M. Strode.	A-126	Salary as Clerk.....	30 00	
June 11	Bessie M. Strode.	A-155	Salary as Clerk.....	30 00	
25	Bessie M. Strode.	A-203	Salary as Clerk.....	30 00	
July 2	E. H. Sell & Co. A-208	Writerpress, etc.	181 80		
11	Bessie M. Strode.	A-237	Salary as Clerk.....	30 00	
18	George Keiffer ...	A-253	Labor on boxes.....	33 00	
28	Bessie M. Strode.	A-268	Salary as Clerk.....	30 00	
Aug. 15	Bessie M. Strode.	A-291	Salary as Clerk.....	30 00	
26	Bessie M. Strode.	A-332	Salary as Clerk.....	30 00	
Sept. 15	Bessie M. Strode.	A-335	Salary as Clerk.....	30 00	
	Subtracted by audit			80 25	
25	W. & L. E. Gurley	A-385	Test weights	62 13	
30	Bessie M. Strode.	A-388	Salary as Clerk.....	30 00	
Oct. 15	Bessie M. Strode.	A-419	Salary as Clerk.....	30 00	
31	Bessie M. Strode.	A-442	Salary as Clerk.....	30 00	
31	Azor Thurston ...	A-455	Analyses and expenses	218 50	
31	William Pate	A-456	Analyses	55 00	
31	O. S. Marckworth.	A-457	Analyses	40 00	
	Total paid from Inspection, Analysis and Publication				\$7,848 66
Nov. 14	Lapsed to General Revenue.....				15,000 00
	Total				\$22,848 66
Nov. 15	Balance				\$5,513 58

FOR LIBRARY.

Date.		Amount.	Total.
1913. Nov. 16	Balance	\$79 40	
	Total		\$79 40

Date.	Payee.	Voucher Number.	Purpose.	Amount.	Total.
Dec. 30 1914.	Scott Krauss	4889	Enquirer, subscription	\$4 40	
Feb. 18	The Canner	4998	Subscription	3 00	
May 1	Scott Krauss	A-67	Enquirer, subscription	4 40	
July 21	D. O. Haynes.....	A-267	Subsc. to Pharmaceu- tical Era	1 00	
31	R. L. Polk.....	A-295	City Directory	7 00	
31	Dodd, Mead & Co.	A-299	1913 Year Book.....	5 40	
Sept. 24	American Food Journal	A-369	Subscriptions	5 00	
25	J. D. Cherry.....	A-379	P. O. Guide.....	3 50	
Oct. 8	D. O. Haynes & Co.	A-395	Druggists' Directory .	5 00	
8	Scott Krauss	A-402	Subscription for En- quirer	5 50	
8	The National Druggist	A-409	Subscription	1 00	
31	The Modern Gro- cer	A-443	Subscription	2 00	
31	Scott Krauss	A-450	Subscription for En- quirer	6 60	
	Total paid from Library appro- priation				\$53 80
	Balance				\$25 60

FOR TRAVELING EXPENSES OF DRUG, DAIRY AND FOOD INSPECTORS.

Date.		Amount.	Total.	
1913. Nov. 16	Balance	\$21,150 11		
	Total		\$21,150 11	
	Payee.	Voucher Number.	Amount.	Total.
Nov. 18	Lee Roy Robertson.....	4812	\$72 05	
18	Jacob M. Styers.....	4813	62 15	
18	C. A. Pontius.....	4814	74 10	
18	Septimus Mawer	4815	88 89	
18	William C. Gear.....	4816	84 10	
18	Harry S. Mesloh.....	4817	93 65	
18	Lyman G. Bingham.....	4818	90 90	
18	Charles T. Barman.....	4820	68 44	
18	Willard R. Hower.....	4821	92 60	
18	Lyman W. Campbell.....	4822	40 36	
18	Thomas C. Gault.....	4823	70 20	
18	James F. Robeson.....	4824	73 72	
18	Daniel B. Wagner.....	4825	65 30	
18	Frank A. Fisher.....	4826	80 05	
18	Almer G. Masterson.....	4827	45 35	
25	Clinton K. Nixon.....	4831	86 10	
Dec. 19	Charles T. Barman.....	4856	62 40	
19	Clinton K. Nixon.....	4857	87 76	
19	Almer G. Masterson.....	4858	53 75	
19	William C. Gear.....	4859	86 70	
19	Charles A. Pontius.....	4860	83 97	
19	Daniel B. Wagner.....	4861	52 44	
19	Lee Roy Robertson.....	4862	73 50	
19	Lyman G. Bingham.....	4863	46 75	
19	Septimus Mawer	4864	69 39	
19	J. Frank Robeson.....	4865	57 13	
19	Jacob Styers	4866	66 65	
19	Willard R. Hower.....	4867	77 50	
19	Harry S. Mesloh.....	4868	70 20	
19	Lyman W. Campbell.....	4873	51 45	
19	E. W. Harrington.....	4875	59 55	
19	Thomas C. Gault.....	4876	93 70	
19	Frank A. Fisher.....	4877	63 94	
30	George D. Dunathan.....	4883	7 50	
1914. Jan. 16	Frank A. Fisher.....	4929	61 68	
16	Lyman G. Bingham.....	4930	32 81	
16	Charles T. Barman.....	4931	39 95	
16	Harry S. Mesloh.....	4932	78 32	
16	Willard R. Hower.....	4933	68 20	
16	Almer G. Masterson.....	4934	53 95	
16	Lyman W. Campbell.....	4935	51 80	
16	Daniel B. Wagner.....	4936	71 35	
17	Lee Roy Robertson.....	4937	75 50	

FOR TRAVELING EXPENSES OF DRUG, DAIRY AND FOOD
INSPECTORS — Concluded.

Date.	Payee.	Voucher Number.	Amount.	Total.
17	E. W. Harrington.....	4938	80 85	
17	William C. Gear.....	4939	84 87	
17	Jacob M. Styers.....	4940	51 12	
17	James F. Robeson.....	4941	57 65	
17	Charles A. Pontius.....	4942	52 10	
22	Thomas C. Gault.....	4948	55 52	
22	Clinton K. Nixon.....	4949	48 29	
22	Septimus Mawer.....	4950	82 73	
Feb. 17	Willard R. Hower.....	5008	93 85	
17	Harry S. Mesloh.....	5009	82 55	
17	Septimus Mawer.....	5010	87 15	
17	Almer G. Masterson.....	5011	53 05	
18	E. W. Harrington.....	5014	108 71	
18	Lyman W. Campbell.....	5015	42 66	
18	William C. Gear.....	5016	88 55	
18	C. A. Pontius.....	5017	71 75	
18	Jacob M. Styers.....	5018	64 60	
19	Thomas C. Gault.....	5021	83 09	
19	Charles T. Barman.....	5022	74 00	
19	Frank A. Fisher.....	5023	76 24	
19	Daniel B. Wagner.....	5024	57 00	
21	Lyman G. Bingham.....	5026	66 36	
21	Lee Roy Robertson.....	5027	21 45	
21	Charles A. Corry.....	5028	48 94	
21	James F. Robeson.....	5029	68 17	
21	Clinton K. Nixon.....	5030	68 17	
	Total			\$4,655 22
	Balance			\$16,494 89
Nov. 14	Lapsed to General Revenue.....			\$16,494 89

FOR CONTINGENT EXPENSES.

Date.	Payee.	Purpose.	Voucher Number.	Amount.	Total.
1913. Nov. 16				\$1,210 41	
	Balance .....			.....	\$1,210 41
	Total .....			.....
Date.	Payee.	Purpose.	Voucher Number.	Amount.	Total.
1913. Nov. 25	John R. Thomas.....	Salary as messenger.....	4880	\$15 50	
Nov. 26	Raymond Dowdell	Adding machine	4884	122 50	
Dec. 1	D. B. Hoyt.....	Electric carpet sweeper.....	4895	38 00	
Dec. 12	John R. Thomas.....	Salary as messenger.....	4886	15 50	
22	John R. Thomas.....	Salary as messenger.....	4879	15 50	
30	H. W. Krumm, P. M.....	P. O. box rent.....	4882	1 50	
30	The Crystal Ice Mfg. & Cold Storage Co.....	Ice and Water.....	4884	4 00	
30	Beck & Orr.....	Carbon sheets	4885	18 00	
30	Capitol News Bureau.....	News service	4886	5 00	
30	The Frank P. Hall Co.....	Pail and oil can.....	4888	75	
30	McAllister-Mohler Co.....	Card Index tray.....	4890	1 00	
30	Nitschke Bros.....	Books and carbon sheets.....	4891	1 45	
30	The Schoedinger-Marr Company.....	Brightener, nails, hatchet.....	4893	2 15	
30	E. H. Sell & Co.....	Sundries, guides, etc.....	4894	33 80	
30	Burroughs Adding Machine Co.....	25 rolls N. B. paper.....	4895	1 50	
30	United States Express Co.....	Expressage	4896	2 50	
30	The Western Union Telegraph Co.....	Messages	4897	3 41	
30	Warner's Time Card Co.....	Service	4898	1 00	
30	Zettler Hardware Co.....	Fixtures for doors.....	4899	2 64	

30	Central Union Telephone Co.	Toll service	4900	4 60
30	Underwood Typewriter Co.	Typewriter	4901	42 08
30	American Express Co.	Expressage	4902	85
1914.				
Jan. 14	John R. Thomas.	Salary as messenger.	4904	15 50
22	Central Union Telephone Co.	Tolls and rental.	4951	17 85
28	John R. Thomas.	Salary as messenger.	4954	15 50
Feb. 8	United States Telephone Co.	Tolls	4955	1 60
8	Columbus Citizens Telephone Co.	Rental	4956	13 00
8	The Schoedinger-Marr Co.	Brightener	4958	2 45
8	The Guide Publishing Co.	R. R. guide.	4959	2 50
13	John R. Thomas.	Salary as messenger.	4980	15 50
13	The Brownell Sons Co.	Eggs for exhibit.	4981	3 55
13	Septimus Mawer	Hauling	4982	50
13	Adams Express Co.	Expressage	4983	1 40
13	The T. L. Bigelow & Sons Co.	Hauling, freight, etc.	4984	6 30
13	W. & L. E. Gurley.	Testing outfit.	4986	51 59
13	Crystal Ice Mfg. & Cold Storage Co.	Ice and water	4987	10 75
13	Capitol News Bureau.	News service	4988	10 00
13	The Central Ohio Paper Co.	Paper towels and fixtures	4989	4 25
13	C. E. Stout.	Freight, storage, etc.	4991	2 68
13	C. K. Nixon.	Cards, files and boxes.	4992	4 80
13	Hiss Stamp Works.	Facsimiles and price marks.	4993	7 70
13	Edward Dotter	Cheese cloth	4994	1 00
13	Franklin Towel Supply Co.	Towel supply	4995	5 75
13	Beck & Orr	Binding report	4997	1 25
13	The Frank P. Hall Co.	Locks, keys, etc.	5000	7 30
13	The Avery-Loeb Electric Co.	Sweeper supplies	5001	92
13	United States Telephone Co.	Tolls	5002	3 20
13	Western Union Telegraph Co.	Messages	5003	6 90
13	E. H. Sell & Co.	File cases, invoice unit, etc.	5004	239 99
13	Subtracted by audit.			23 30
	John R. Thomas.	Salary as messenger, February 16, 1914, to November 15, 1914, both inclusive.		263 50
	Total for Contingent Expenses.			\$1,073 76
Nov. 15	Balance			\$136 65

FOR INVESTIGATION OF ILLEGAL SALES OF COCAINE.

Date.		Amount.	Total.
1913 Nov. 16	Balance	\$1,024 12	
	Total		\$1,024 12
	Payee.		
	Addison C. Johnston, Inspector, salary. November 16, 1913, to January 15, 1914, both inclusive	\$200 00	
	Addison C. Johnston, Inspector, expenses. November 16, 1913, to December 15, 1913, both inclusive	123 07	
	R. H. Oyler, Inspector, salary. November 16, 1913, to January 22, 1914, both inclusive	222 96	
	R. H. Oyler, Inspector, expenses. November 16, 1913, to January 22, 1914, both inclusive	210 56	
	Total		\$756 59
1914. Nov. 14	Balance lapsed to General Revenue.....		\$267 53

FOR SUPPLIES.

Date.	Payee.	Purpose.	Voucher Number.	Amount.	Total.
	1914 Budget Appropriation.....			\$459 70	
	Total .....			.....	\$459 70
Mar. 19	Edward Dotter	Cheese cloth	5057	\$1 00	
18	The Crystal Ice and Cold Storage Co.....	Ice and water	5061	5 75	
May 1	Franklin Towel Supply Co.....	Towel supply	A-65	5 75	
1	Crystal Ice Mfg. & Cold Storage Co.....	Ice and water	A-69	6 75	
18	H. W. Krumm, P. M.....	Postage stamps	A-102	120 21	
28	H. W. Krumm, P. M.....	Postage stamps	A-130	10 00	
June 9	W. E. McDonald Stationery Co.....	Drinking cups	A-141	1 50	
11	Peter J. Henry.....	Copies of affidavits	A-147	4 00	
11	The Crystal Ice Mfg. and Cold Storage Co.	Ice and water	A-156	11 75	
July 2	Franklin Towel Supply Co.....	Towel supply	A-212	5 75	
2	Hiss Stamp Works.....	Aluminum seals	A-213	13 50	
Sept. 25	The Crystal Ice Mfg. & Cold Storage Co..	Ice and water	A-380	19 25	
25	Franklin Towel Supply Co.....	Towel Supply	A-383	5 75	
30	H. W. Krumm, P. M.....	Postage stamps	A-389	155 12	
Oct. 8	Kee Lox Mfg. Co.....	Typewriter ribbons	A-415	6 30	
31	Varni-Shine Co.....	Varni-Shine	A-451	1 89	
31	E. H. Sell & Co.....	Hotchkiss staples	A-454	1 25	
	Total paid from fund for supplies.....			\$375 52	
Nov. 15	Balance .....			.....	\$84 18

FOR EQUIPMENT.

Date.	Payee.	Purpose.	Voucher Number.	Amount.	Total.
	1914 Budget Appropriation.....			\$264 45	\$264 45
	Total .....			.....
	Payee.	Purpose.	Voucher Number.	Amount.	Total.
1914.					
Mar. 13	Underwood Typewriter Co.....	Typewriter	5055	\$42 08	
18	E. H. Sell & Co.....	Letter trays	5056	2 10	
18	Capitol News Bureau.....	News clippings	5058	5 00	
26	Hiss Stamp Works.....	Rubber stamps	A-6	20	
26	E. H. Sell & Co.....	Hotchiss stapler and staples.....	A-8	5 25	
May 1	Capitol News Bureau.....	News clippings	A-63	5 00	
1	Hiss Stamp Works.....	Badges	A-66	17 65	
1	Warner's Time Card Co.....	Time cards	A-68	1 00	
1	E. H. Sell & Co.....	Guides, etc.	A-72	14 30	
June 9	Schreicks Cute Studio.....	Picture frame and glass.....	A-135	2 00	
9	Homer C. Smith.....	Electric egg testers.....	A-140	30 00	
9	W. E. McDonald Stationery Co.....	Cup machine and cups	A-141	3 50	
11	Capitol News Bureau.....	News clippings	A-145	10 00	
11	The Central Ohio Paper Co.....	Double thick paper.....	A-149	1 25	
11	Hiss Stamp Works.....	Dater, badges, moulds, etc.....	A-151	13 80	
11	E. H. Sell & Co.....	Folding cases and stamp.....	A-152	4 00	
11	Art Sign Co.....	Show cards	A-157	5 50	
July 2	Capitol News Bureau.....	News clippings	A-210	5 00	
2	The Schoedinger-Marr Co.....	Can of oil and picture hangers.....	A-216	35	
8	Thomas C. Gault.....	Mills testing equipment.....	A-238	2 25	

31	The F. G. & A. Howald Co.....	Folding chairs	A-301	8 00	
31	E. H. Sell & Co.....	Card tray and outfit.....	A-302	1 70	\$1 25
	Added by audit.....				
25	Automatic Pencil Sharpener Co.....	Twin cutter in frame.....	A-372	1 50	
25	The Bixler Tester Co.....	Egg tester	A-374	3 00	
25	Capitol News Bureau.....	News clippings	A-378	10 00	
25	Enterprise Dairy and Creamery Supply Co.	Mills testing equipment.....	A-382	3 21	
25	The Frank P. Hall Co.....	Wrench (2)	A-386	1 90	
Oct. 8	E. H. Sell & Co.....	Memo. books, index, rules, etc.....	A-408	15 05	
31	Capitol News Bureau.....	News clippings	A-449	5 00	
31	The Schoedinger-Marr Co.....	Oil map	A-453	1 00	
31	E. H. Sell & Co.....	Files, staples, guides.....	A-454	6 55	
				\$227 14	\$265 70
	Total paid from equipment.....				\$227 14
Nov. 15	Balance				\$98 56

FOR CONTRACT OR OPEN ORDER SERVICE.

Date.	Payee.	Purpose.	Voucher Number.	Amount.	Total.
	1914 Budget Appropriation.....			\$32,124 50	
	Total .....			.....	\$32,124 50
1914 Mar. 18	American Express Co.....	Expressage	5059	\$3 30	
18	Receiver of The Central Union Telephone Co.	Toll service	5060	7 95	
18	L. W. Bingham.....	Expenses as Inspector.....	5062	37 25	
18	C. A. Pontius.....	Expenses as Inspector.....	5063	51 80	
18	W. C. Gear.....	Expenses as Inspector.....	5064	69 94	
18	Almer G. Masterson.....	Expenses as Inspector.....	5065	49 63	
18	Harry S. Mesloh.....	Expenses as Inspector.....	5066	78 60	
18	Fred C. Albrecht.....	Expenses as Inspector.....	5067	10 55	
18	Chas. T. Barman.....	Expenses as Inspector.....	5068	84 26	
18	Willard R. Hower.....	Expenses as Inspector.....	5069	69 09	
18	B. S. Bartlow.....	Expenses as Chief Inspector.....	5070	3 05	
18	Hilton R. Diegle.....	Expenses as Inspector.....	5071	64 69	
18	Septimus Mawer.....	Expenses as Inspector.....	5072	90 32	
18	E. W. Harrington.....	Expenses as Inspector.....	5073	107 15	
18	Addison C. Johnston.....	Expenses as Inspector.....	5074	402 24	
18	L. W. Campbell.....	Expenses as Inspector.....	5075	33 95	
18	Thos. C. Gault.....	Expenses as Inspector.....	5076	73 67	
18	Frank A. Fisher.....	Expenses as Inspector.....	5077	66 76	
18	Daniel B. Wagner.....	Expenses as Inspector.....	5078	23 46	

18	J. M. Styers.....	Expenses as Inspector.....	A-2	1 50
18	J. Frank Robeson.....	Expenses as Inspector.....	A-3	1 38
18	Charles A. Corry.....	Expenses as Inspector.....	A-4	2 00
18	C. K. Nixon.....	Expenses as Inspector.....	A-5	55
18	O. S. Marckworth.....	Analyses.....	A-7	23
26	H. W. Krumm, P. M.....	P. O. box rent.....	A-10	51 20
26	Western Union Telegraph Co.....	Messages.....	A-36	10 80
26	Beach Beard.....	Exhibit card.....	A-37	12 05
26	United States Telephone Co.....	Toll service.....	A-39	100 89
26	The Frank P. Hall Co.....	Window rubber.....	A-40	87 15
26	The United States Express Co.....	Expressage.....	A-41	130 80
17	H. R. Diegle.....	Expenses as Inspector.....	A-42	62 78
17	B. S. Bartlow.....	Expenses as Chief Inspector.....	A-43	87 70
17	F. C. Albrecht.....	Expenses as Inspector.....	A-44	205 00
17	Willard R. Hower.....	Expenses as Inspector.....	A-45	322 11
17	Harry S. Mesloh.....	Expenses as Inspector.....	A-46	63 82
17	E. W. Harrington.....	Expenses as Inspector.....	A-47	50 18
17	Jacob M. Styers.....	Expenses as Inspector.....	A-48	69 99
17	Charles T. Barman.....	Expenses as Inspector.....	A-49	73 46
17	O. S. Marckworth.....	Analyses and expenses.....	A-50	54 55
17	Addison C. Johnston.....	Expenses self and assistant.....	A-51	75 94
17	J. Frank Robeson.....	Expenses as Inspector.....	A-52	48 53
17	Almer G. Masterson.....	Expenses as Inspector.....	A-53	66 43
17	C. K. Nixon.....	Expenses as Inspector.....	A-54	93 49
17	C. A. Pontius.....	Expenses as Inspector.....	A-55	70 83
17	D. B. Wagner.....	Expenses as Inspector.....	A-56	55 05
18	Frank A. Fisher.....	Expenses as Inspector.....	A-57	42 15
18	C. A. Corry.....	Expenses as Inspector.....	A-58	16 90
18	Thomas C. Gault.....	Expenses as Inspector.....	A-60	4 15
18	Septimus Mawer.....	Expenses as Inspector.....	A-61	13 00
18	William C. Gear.....	Expenses as Inspector.....	A-62	45
21	Lyman G. Bingham.....	Expenses as Inspector.....	A-64	54
21	L. W. Campbell.....	Expenses as Inspector.....	A-70	1 57
27	Receiver, Central Union Telephone Co.....	Rental and toll service.....	A-71	56 30
30	United States Telephone Co.....	Toll service.....		
30	Columbus Citizens Telephone Co.....	Rental.....		
1	American Express Co.....	Expressage.....		
1	Adams Express Co.....	Expressage.....		
1	The Western Union Telegraph Co.....	Messages.....		
1	Ohio Penitentiary.....	Exhibit case.....		

Apr.

May

FOR CONTRACT OR OPEN ORDER SERVICE — Continued.

Date.	Payee.	Purpose.	Voucher Number.	Amount.	Total.
1	Receivers, Central Union Telephone Co....	Toll service	A-73	3 40	
4	The Kearns Gorsch Bottle Co.....	Bottles and caps.....	A-74	6 42	
4	The Western Union Telegraph Co.....	Messages	A-75	3 00	
4	Azor Thurston	Analyses and expenses.....	A-76	139 25	
15	Theo. D. Wetterstroem.....	Analyses and expenses.....	A-78	435 50	
15	William Pate	Analyses and expenses.....	A-79	143 90	
15	John Casey, J. P.	Transcripts	A-80	3 80	
15	William McPherson	Analyses	A-103	15 00	
18	W. C. Gear	Expenses as Inspector.....	A-104	75 09	
18	A. C. Johnston.....	Expenses, self and assistants.....	A-105	354 89	
18	W. R. Hower.....	Expenses as Inspector.....	A-106	90 52	
18	M. J. Dotter.....	Expenses as Inspector.....	A-107	10 73	
18	H. R. Diegle.....	Expenses as Inspector.....	A-108	53 84	
18	Harry S. Mesloh.....	Expenses as Inspector.....	A-109	89 90	
18	E. W. Harrington.....	Expenses as Inspector.....	A-110	89 60	
19	Septimus Mawer	Expenses as Inspector.....	A-111	79 35	
20	O. S. Markworth	Expenses as Inspector.....	A-112	145 00	
20	F. C. Albrecht.....	Analyses	A-113	15 75	
20	Chas. T. Barman.....	Expenses as Inspector.....	A-114	88 89	
20	D. B. Wagner.....	Expenses as Inspector.....	A-115	52 70	
20	Lyman W. Bingham.....	Expenses as Inspector.....	A-116	72 35	
20	J. M. Styers.....	Expenses as Inspector.....	A-117	61 71	
20	J. Frank Robeson.....	Expenses as Inspector.....	A-118	66 32	
20	C. A. Pontius.....	Expenses as Inspector.....	A-119	89 37	
20	F. A. Fisher.....	Expenses as Inspector.....	A-120	72 39	
20	Thos. C. Gault.....	Expenses as Inspector.....	A-121	77 87	
20	Almer G. Masterson.....	Expenses as Inspector.....	A-122	60 15	
20	L. W. Campbell.....	Expenses as Inspector.....	A-123	41 35	
20	C. A. Corry.....	Expenses as Inspector.....	A-124	39 69	
21	C. K. Nixon.....	Expenses as Inspector.....	A-125	76 99	
June 4	H. R. Diegle.....	Expenses to W. & M. Convention.....	A-131	53 80	

4	F. C. Albrecht.....	Expenses to W. & M. Convention.....	A-132	53 80
9	E. Loudon Austin.....	Decorating booths.....	A-134	4 50
9	The Sheldon Dry Goods Co.....	Bunting for exhibit booths.....	A-136	8 28
9	Azor Thurston.....	Analyses.....	A-137	125 00
9	William Pate.....	Analyses and expenses.....	A-138	48 05
9	United States Telephone Co.....	Toll service.....	A-139	3 80
11	H. H. Carr.....	Use of lumber and work on booths.....	A-142	9 50
11	Nitschke Bros.....	Oleomargarine sign.....	A-143	50
11	O'Brien O'Donnell.....	Transcript.....	A-146	1 75
11	Peter J. Henry.....	Transcripts.....	A-147	4 00
11	Geo. A. Schaeffer, J. P.....	Transcripts.....	A-148	2 50
11	The American Food Journal.....	Half-tone.....	A-150	8 78
11	American Express Co.....	Expressage.....	A-153	1 39
11	Adams Express Co.....	Expressage.....	A-154	1 15
12	Wells, Fargo Express Co.....	Expressage.....	A-158	78
12	Receivers, Central Union Telephone Co.....	Toll service.....	A-159	3 70
12	The Western Union Telegraph Co.....	Messages.....	A-160	1 56
12	U. S. Electric Inc. Lamp Co.....	Rent of fans and wiring.....	A-161	6 00
16	George Oakley.....	Expenses as Inspector.....	A-181	152 95
16	A. C. Johnston.....	Expenses as Inspector.....	A-182	129 25
17	Harry S. Mesloh.....	Expenses as Inspector.....	A-183	69 50
17	W. R. Hower.....	Expenses as Inspector.....	A-184	98 05
17	L. W. Campbell.....	Expenses as Inspector.....	A-185	41 85
17	J. Frank Robeson.....	Expenses as Inspector.....	A-186	72 52
17	C. A. Pontius.....	Expenses as Inspector.....	A-187	100 03
17	M. J. Dotter.....	Expenses as Inspector.....	A-188	47 98
18	E. W. Harrington.....	Expenses as Inspector.....	A-189	86 04
18	O. S. Markworth.....	Expenses as Chemist.....	A-190	190 00
18	J. M. Styers.....	Expenses as Inspector.....	A-191	84 19
18	L. G. Bingham.....	Expenses as Inspector.....	A-192	75 35
18	Frank A. Fisher.....	Expenses as Inspector.....	A-193	73 51
18	Almer G. Masterson.....	Expenses as Inspector.....	A-194	46 35
18	C. K. Nixon.....	Expenses as Inspector.....	A-195	67 87
18	Septimus Mawer.....	Expenses as Inspector.....	A-196	98 90
18	D. B. Wagner.....	Expenses as Inspector.....	A-197	56 81
18	Thos. C. Gault.....	Expenses as Inspector.....	A-198	80 61
18	W. C. Gear.....	Expenses as Inspector.....	A-199	76 35
18	C. A. Corry.....	Expenses as Inspector.....	A-200	46 38
18	Chas. T. Barman.....	Expenses as Inspector.....	A-201	76 20
25	H. R. Diegle.....	Expenses as Inspector.....	A-204	1 65

FOR CONTRACT OR OPEN ORDER SERVICE—Continued.

Date.	Payee.	Purpose.	Voucher Number.	Amount.	Total.
26 July	B. S. Bartlow.....	Expenses as Chief Inspector.....	A-205	7 80	
2	Receivers, Central Union Telephone Co.....	Rental and toll service.....	A-206	16 75	
2	Harry W. Krumm, P. M.....	Rent for P. O. box.....	A-207	1 50	
2	The T. L. Bigelow & Sons Co.....	Hauling.....	A-209	1 15	
2	Columbus Citizens Telephone Co.....	Rental.....	A-211	13 00	
2	W. E. McDonald Stationery Co.....	Drinking cups.....	A-215	6 75	
3	The Western Union Telegraph Co.....	Messages.....	A-239	1 20	
3	Azor Thurston.....	Analyses and expenses.....	A-240	210 05	
11	Meryl Stratton.....	Paint and labor on exhibit boxes.....	A-241	13 50	
16	Addison C. Johnston.....	Expenses as Inspector.....	A-242	121 11	
16	M. J. Dotter.....	Expenses as Inspector.....	A-243	61 82	
16	Septimus Mawer.....	Expenses as Inspector.....	A-244	90 20	
16	H. R. Diegle.....	Expenses as Inspector.....	A-245	58 72	
16	Geo. Oakley.....	Expenses as Inspector.....	A-246	151 60	
17	Harry S. Mesloh.....	Expenses as Inspector.....	A-247	90 36	
17	W. C. Gear.....	Expenses as Inspector.....	A-248	82 04	
17	Charles T. Barman.....	Expenses as Inspector.....	A-249	83 40	
17	F. C. Albrecht.....	Expenses as Inspector.....	A-250	26 95	
18	E. W. Harrington.....	Expenses as Inspector.....	A-251	97 14	
20	O. S. Markworth.....	Analyses and expenses.....	A-252	207 80	
20	Almer G. Masterson.....	Expenses as Inspector.....	A-254	65 24	
20	Willard R. Hower.....	Expenses as Inspector.....	A-255	90 20	
20	Thos. C. Gault.....	Expenses as Inspector.....	A-256	85 30	
20	Frank A. Fisher.....	Expenses as Inspector.....	A-257	81 49	
20	Daniel B. Wagner.....	Expenses as Inspector.....	A-258	64 26	
20	J. Frank Robeson.....	Expenses as Inspector.....	A-259	95 53	
20	C. A. Corry.....	Expenses as Inspector.....	A-260	43 75	
20	Theo. D. Wetterstroem.....	Analyses and expenses.....	A-261	197 00	
20	William Pate.....	Analyses and expenses.....	A-262	62 01	
20	L. W. Campbell.....	Expenses as Inspector.....	A-263	31 70	
21	C. A. Pontius.....	Expenses as Inspector.....	A-264	46 56	

21	Clinton K. Nixon.....	Expenses as Inspector.....	A-265	74 62
21	Lyman G. Bingham.....	Expenses as Inspector.....	A-266	88 85
20	B. S. Bartlow.....	Expenses to Nat. Food Con.....	A-280	89 60
20	J. M. Styers.....	Expenses as Inspector.....	A-290	73 46
31	Adams Express Co.....	Expressage.....	A-292	68
31	L. C. Feighner.....	Affidavits.....	A-294	2 00
31	Wells Fargo Express Co.....	Expressage.....	A-296	1 47
31	American Express Co.....	Expressage.....	A-297	2 30
31	The T. L. Bigelow & Sons Co.....	Hauling.....	A-298	72
31	United States Telephone Co.....	Toll service.....	A-300	90
31	The F. G. & A. Howald Co.....	Rent for folding chairs.....	A-301	65
31	T. Bernard Tanner, P. D.....	Attendance in court.....	A-303	15 00
Aug. 19	J. M. Styers.....	Expenses as Inspector.....	A-306	70 38
19	M. J. Dotter.....	Expenses as Inspector.....	A-307	40 39
19	Geo. Oakley.....	Expenses as Inspector.....	A-308	150 25
19	Addison C. Johnston.....	Expenses as Inspector.....	A-309	105 99
19	W. C. Gear.....	Expenses as Inspector.....	A-310	78 03
19	Harry S. Mesloh.....	Expenses as Inspector.....	A-311	87 85
19	H. R. Drege.....	Expenses as Inspector.....	A-312	56 20
19	F. C. Albrecht.....	Expenses as Inspector.....	A-313	4 20
19	Chas. T. Barman.....	Expenses as Inspector.....	A-314	87 95
20	J. Frank Robeson.....	Expenses as Inspector.....	A-315	105 01
20	L. W. Campbell.....	Expenses as Inspector.....	A-316	22 35
20	Lyman G. Bingham.....	Expenses as Inspector.....	A-317	89 85
21	Frank A. Fisher.....	Expenses as Inspector.....	A-318	83 46
21	Thos. C. Gault.....	Expenses as Inspector.....	A-319	89 34
21	B. S. Bartlow.....	Expenses as Inspector.....	A-320	15 85
21	C. A. Pontius.....	Expenses as Inspector.....	A-321	51 65
21	Willard R. Hower.....	Expenses as Inspector.....	A-322	79 94
21	A. G. Masterson.....	Expenses as Inspector.....	A-323	67 32
21	Clinton K. Nixon.....	Expenses as Inspector.....	A-324	81 06
21	Daniel B. Wagner.....	Expenses as Inspector.....	A-325	80 39
22	E. W. Harrington.....	Expenses as Inspector.....	A-326	107 50
22	Septimus Mawer.....	Expenses as Inspector.....	A-327	88 35
22	O. S. Marchworth.....	Analyses.....	A-328	205 00
22	William Pate.....	Analyses.....	A-329	55 00
22	Azor Thurston.....	Analyses.....	A-330	260 00
25	C. A. Corry.....	Expenses as Inspector.....	A-331	41 48
31	Receivers, Central Union Telephone Co.....	Toll service.....	A-333	10 20
	Added by audit.....			

\$79 00

FOR CONTRACT OR OPEN ORDER SERVICE — Concluded.

Date.	Payee.	Purpose.	Voucher Number.	Amount.	Total.
Sept. 16	Fred C. Albrecht.....	Expenses as Inspector.....	A-337	36 69	
18	Receivers, Central Union Telephone Co.....	Toll service	A-339	5 90	
18	Daniel B. Wagner.....	Expenses as Inspector.....	A-340	77 22	
18	Lyman G. Bingham.....	Expenses as Inspector.....	A-341	85 20	
18	M. J. Dotter.....	Expenses as Inspector.....	A-342	35 61	
18	Chas. T. Barman.....	Expenses as Inspector.....	A-343	86 10	
18	Willard R. Hower.....	Expenses as Inspector.....	A-344	119 77	
18	B. S. Bartlow.....	Expenses as Chief Inspector.....	A-345	16 35	
18	Addison C. Johnston.....	Expenses as Inspector.....	A-346	181 20	
18	Geo. Oakley.....	Expenses as Inspector.....	A-347	106 05	
18	Hilton R. Diegle.....	Expenses as Inspector.....	A-348	35 05	
18	J. Frank Robeson.....	Expenses as Inspector.....	A-349	81 00	
18	Thos. C. Gault.....	Expenses as Inspector.....	A-350	83 95	
18	Septimus Mawer.....	Expenses as Inspector.....	A-351	102 01	
18	L. W. Campbell.....	Expenses as Inspector.....	A-352	34 83	
21	W. C. Gear.....	Expenses as Inspector.....	A-353	81 01	
21	Clinton K. Nixon.....	Expenses as Inspector.....	A-354	68 59	
21	Harry S. Mesloh.....	Expenses as Inspector.....	A-355	99 75	
21	C. A. Corry.....	Expenses as Inspector.....	A-356	58 19	
21	A. G. Masterson.....	Expenses as Inspector.....	A-357	61 50	
21	E. W. Harrington.....	Expenses as Inspector.....	A-358	83 60	
21	Frank A. Fisher.....	Expenses as Inspector.....	A-359	76 71	
21	O. S. Marckworth.....	Analyses and expenses.....	A-360	274 90	
21	Azor Thurston.....	Analyses	A-362	110 00	
22	J. M. Styers.....	Expenses as Inspector.....	A-363	85 12	
22	Chas. A. Pontius.....	Expenses as Inspector.....	A-364	59 85	
24	H. W. Krumm, P. M.....	P. O. box rent.....	A-367	1 50	
24	Adams Express Co.....	Expressage	A-370	41	
Oct. 1	Frank Nickens.....	Hauling	A-390	1 00	
6	Receivers, Central Union Telephone Co.....	Rent and toll service.....	A-391	18 90	
6	Frank G. Marsh.....	Transcripts	A-392	2 55	

8	The Western Union Telegraph Co.....	Messages.....	A-393	8 83
8	Warner's Time Card Co.....	R. R. time cards.....	A-400	1 00
8	United States Telephone Co.....	Toll service.....	A-404	2 70
8	Columbus Citizens Telephone Co.....	Rental.....	A-405	13 00
8	Metal Barrel Co.....	Balance on subscription.....	A-411	65
8	Yates & Hough.....	Transcript.....	A-416	1 00
15	George Oakley.....	Expenses as Inspector.....	A-420	135 30
21	J. M. Styers.....	Expenses as Inspector.....	A-421	94 83
21	E. W. Harrington.....	Expenses as Inspector.....	A-422	111 48
21	A. G. Masterson.....	Expenses as Inspector.....	A-423	65 05
21	Thos. C. Gault.....	Expenses as Inspector.....	A-424	105 05
21	M. J. Dotter.....	Expenses as Inspector.....	A-425	56 34
21	Frank A. Fisher.....	Expenses as Inspector.....	A-426	77 22
21	F. C. Albrecht.....	Expenses as Inspector.....	A-427	39 65
21	Hilton R. Diegle.....	Expenses as Inspector.....	A-428	71 50
21	Addison C. Johnston.....	Expenses as Inspector.....	A-429	122 66
21	J. Frank Robeson.....	Expenses as Inspector.....	A-430	74 45
21	W. C. Gear.....	Expenses as Inspector.....	A-431	86 31
21	C. A. Pontius.....	Expenses as Inspector.....	A-432	35 90
21	Lyman G. Bingham.....	Expenses as Inspector.....	A-433	102 75
21	Septimus Mawer.....	Expenses as Inspector.....	A-434	101 40
21	Charles T. Barman.....	Expenses as Inspector.....	A-435	72 85
21	Willard R. Hower.....	Expenses as Inspector.....	A-436	90 75
21	Daniel B. Wagner.....	Expenses as Inspector.....	A-437	89 29
21	H. S. Mesloh.....	Expenses as Inspector.....	A-438	101 70
24	Clinton K. Nixon.....	Expenses as Inspector.....	A-439	55 23
24	C. A. Corry.....	Expenses as Inspector.....	A-440	44 13
24	L. W. Campbell.....	Expenses as Inspector.....	A-441	42 45
31	W. T. Platt, J. P.....	Transcript.....	A-445	1 15
31	Adams Express Co.....	Expressage.....	A-446	51
31	August Kirbert, clerk.....	Transcript.....	A-459	2 40
Nov. 4	Septimus Mawer.....	Expenses as Inspector.....	A-461	37 85
4	Harry S. Mesloh.....	Expenses as Inspector.....	A-462	43 20
	Totals.....			
	Total paid from contract or open order service.....			\$17,233 76
				\$32,203 50
				17,233 76
Nov. 15	Balance.....			\$14,969 74

EXECUTIVE DOCUMENTS.

USES AND PURPOSES.

Date.		Amount.	Total.
1914.			
Apr. 27	Fines and Fees paid into State Treasury....	\$588 70	
May 4	Fines and Fees paid into State Treasury....	156 00	
7	Fines and Fees paid into State Treasury....	135 00	
18	Fines and Fees paid into State Treasury....	65 00	
25	Fines and Fees paid into State Treasury....	180 00	
June 8	Fines and Fees paid into State Treasury....	79 50	
29	Fines and Fees paid into State Treasury....	452 05	
July 27	Fines and Fees paid into State Treasury....	320 00	
Aug. 31	Fines and Fees paid into State Treasury....	185 00	
Sept. 21	Fines and Fees paid into State Treasury....	115 00	
Oct. 26	Fines and Fees paid into State Treasury....	683 95	
Nov. 2	Fines and Fees paid into State Treasury....	10 35	
	Total .....	.....	\$2,970 55

USES AND PURPOSES — Continued.

Date.	Payee.	Purpose.	Voucher Number.	Amount.	Total.
July 31	Beach Beard	Equipment for fair exhibit.	A-293	\$12 00	
31	The Zettler Hardware Co.	Lumber for equipment for fair exhibit.	A-304	8 95	
31	T. J. Dundon.	Sewing bunting for fair exhibit.	A-305	60 12	
Aug. 31	Mrs. Mary Reed.	Supplies for fair exhibit.	A-334	8 32	
Sept. 16	Ryan Electric Co.	Fair exhibit work.	A-338	19 15	
24	L. J. Leonard.	Fair exhibit equipment.	A-365	11 00	
24	S. E. Hickerson.	Fair exhibit supplies and equipment.	A-366	18 17	
24	Harry S. Mesloh.	Fair exhibit expenses.	A-368	26 79	
24	B. S. Bartlow.	Signs for fair exhibit.	A-371	59 00	
25	Beach Beard	Equipment for fair exhibit.	A-373	40 00	
25	Bucher Engraving Co.	Tent, etc., for fair exhibits.	A-375	10 85	
25	The Buckeye Tent, Awning & Mfg. Co.	Supplies for fair exhibits.	A-376	177 48	
25	L. J. Buechner.	Supplies for fair exhibits.	A-377	24 00	
25	Andrew Dobbie	Supplies for fair exhibit.	A-381	17 76	
25	O. O. Gomp.	Banner sign	A-384	5 60	
25	W. F. Hamilton Sign Co.	Rent and toll service.	A-387	14 00	
Oct. 6	Receivers, Central Union Telephone Co.	Cambric for fair exhibits.	A-391	3 15	
8	The Green Joyce Co.	Equipment for fair exhibits.	A-394	31 11	
8	T. J. Dundon & Co.	Equipment for fair exhibits.	A-396	6 58	
8	The Talmadge Hdw. Co.	Supplies for fair exhibit.	A-397	4 75	
8	The Ohio Grocery & Baking Co.	Supplies for fair exhibit.	A-398	17 55	
8	The Central Ohio Paper Co.	Supplies for fair exhibit.	A-401	35 15	
8	The Edward T. Miller Co.	Supplies for fair exhibit.	A-403	6 15	
8	Beach Beard	Supplies for fair exhibit.	A-406	41 30	
8	Howard & Son.	Equipment for fair exhibit.	A-407	1 75	
8	The Schoedinger-Marr Co.	Supplies for fair exhibit.	A-410	15 03	
8	Hiss Stamp Works.	Supplies for fair exhibit.	A-412	1 25	
8	Lyle Did It.	Equipment for fair exhibit.	A-413	9 00	
8	H. E. Lang.	Hauling, freight, etc.	A-414	2 00	
8	The T. L. Bigelow & Sons Co.	Supplies for fair exhibit.	A-417	12 69	
8	The Southard Novelty Co.		A-418	41 32	

USES AND PURPOSES—Concluded.

Date.	Payee.	Purpose.	Voucher Number.	Amount.	Total.
31	The T. L. Bigelow & Sons Co.....	Hauling, freight, etc.....	A-444	15 50	
31	Rice Brothers	Supplies for fair exhibit.....	A-447	41 15	
31	Ohio Pennant Co.....	Equipment for fair exhibit.....	A-448	19 00	
31	The Cussins & Fearn Co.....	Equipment for fair exhibit.....	A-452	16 04	
31	The J. E. Parker Co.....	Supplies for fair exhibit.....	A-458	4 40	
Nov. 4	The Brownell Sons Co.....	Supplies for fair exhibit.....	A-460	10 35	
	Total paid from Uses and Purposes...				\$848 41
Nov. 15	Balance				\$2,122 14

STATEMENT OF FINES AND FEES RECEIVED AND PAID TO TREASURER OF STATE FOR GENERAL REVENUE FUND AND USES AND PURPOSES.

Date.	Case No.	State of Ohio vs.	Fine.	Analysis Fees.	Inspection Costs.	Total.
1913.						
Nov. 20	4899	E. W. Newton.....			\$7 30	\$7 30
22	4897	Roy Matson	\$25 00	\$5 00	2 00	32 00
28	4790	John Welsh	50 00	5 00		55 00
Dec. 2	4916	Lena Dishong	25 00			25 00
2	4917	Uriah Dishong	20 00			20 00
4	4908	Jno. McMannis	20 00			20 00
12	4915	Harry Simms	25 00	5 00	2 25	32 25
12	4825	J. W. Harbauer.....	50 00	5 00	1 00	56 00
19	4925	C. E. Greenick.....	50 00			50 00
19	4862	J. W. Harbauer.....	50 00	5 00	1 00	56 00
19	4889	Chas. Gepper	50 00			50 00
19	4863	Charles Deible	25 00			25 00
20	4874	M. Jacobs		5 00		5 00
22	4934	Amos Thall	15 00			15 00
1914						
Jan. 9	4948	H. W. Carmen.....	50 00	5 00		55 00
9	4826	J. W. Harbauer.....		5 00		5 00
9	4828	J. W. Harbauer.....		5 00		5 00
9	4823	J. W. Harbauer.....		5 00		5 00
9	4827	J. W. Harbauer.....	50 00	5 00	1 00	56 00
14	4891	J. W. Harbauer.....		5 00		5 00
14	4875	J. W. Harbauer.....	50 00	5 00	1 00	56 00
21	4848	Clarence D. Caruthers...	10 00	5 00		15 00
21	4949	H. O. Davis.....	250 00			250 00
21	4937	William Wagner	50 00			50 00
21	4946	Ira C. Wade	25 00			25 00
21	4944	Louis H. Ohly.....	25 00			25 00
21	4945	Herman Kugel	25 00			25 00
21	4942	J. S. Hanson.....	25 00			25 00
27	4939	A. Carlson	50 00			50 00
27	4940	Geo. Clemond	50 00			50 00
Feb. 6	4972	C. Coblentz	45 00			45 00
10	4969	E. E. Shaefer.....	20 00			20 00
14	4973	L. D. Miller.....	50 00			50 00
24	5007	J. B. Maher.....	25 00	5 00	1 00	31 00
25	4958	Burton M. Smith.....	20 00			20 00
26	5004	Ida Brown	40 00	5 00		45 00
26	5002	John Tinios	50 00	5 00		55 00
26	5003	J. W. Picket.....	50 00	5 00		55 00
26	4995	Maurice Kronegold		5 00	1 55	6 55
26	4996	F. S. Foster.....	15 00			15 00
28	4894	Gregorie Silvestri			6 85	6 85
Mar. 6	4997	W. L. Shoemaker.....	10 00			10 00
6	4982	David Taylor	10 00			10 00
6	4998	K. E. Bradley	10 00			10 00
6	4981	Margaret Beatty	20 00			20 00
10	5006	Alva Williams	50 00			50 00
10	5022	R. M. Laird.....	50 00	5 00		55 00
13	5034	C. T. Finney.....	20 00			20 00
24	5035	G. P. Curry.....	25 00			25 00
24	4625	Harry Klivens	25 00	5 00	1 00	31 00
24	4930	Max Malkoff		5 00	2 00	7 00
26	5021	Gregory Silvestri	25 00	5 00		30 00

STATEMENT OF FINES AND FEES RECEIVED AND PAID TO TREASURER OF STATE FOR GENERAL REVENUE FUND AND USES AND PURPOSES—Continued.

Date.	Case No.	State of Ohio vs.	Fine.	Analysis Fees.	Inspection Costs.	Total.
Apr. 2	5012	John Lescher		5 00		5 00
2	5050	T. L. Williams	25 00			25 00
8	5017	Gust Thomas	50 00			50 00
8	5062	Otto Harp	5 00	5 00		10 00
8	4994	Peter J. Scully	25 00	5 00	30	30 30
8	5061	G. E. Howell		5 00	1 00	6 00
14	5051	I. E. Horn	25 00	5 00		30 00
18	4970	M. Burnstein	25 00	5 00		30 00
18	4976	E. F. Senglas	50 00	5 00		55 00
18	4979	Frank H. Hoffman	50 00	5 00		55 00
18	5053	B. F. Petzel	50 00	5 00	1 00	56 00
18	5019	T. J. Scanlon	16 85	5 00		21 85
18	4713	Albert Kissin	2 60	5 00	1 00	8 60
18	4566	S. Brachman	10 00			10 00
18	4977	S. Brachman	15 45	5 00	1 00	21 45
18	5016	Samuel H. Kurlander	5 00			5 00
18	4991	W. S. Switzer	20 00			20 00
18	4985	W. S. Switzer	20 00			20 00
18	4990	Frank Hibbard	20 00			20 00
18	4986	Wm. Schmidt	20 00			20 00
18	4993	W. H. Brinsmade	20 00			20 00
18	4989	S. E. Cline	5 00			5 00
18	5067	G. T. Fimmel		5 00		5 00
18	5031	H. E. Bowers	15 00			15 00
18	5046	George Serris	20 00			20 00
22	4822	John Glass	50 00	5 00	3 40	58 40
22	5068	John Glass	50 00	5 00	4 40	59 40
27	4769	Melia	50 00	5 00	1 00	56 00
May 1	5071	H. E. Hatcher	50 00			50 00
1	5070	W. Knapp	50 00			50 00
5	5066	W. D. Otter		5 00		5 00
7	5069	George Charlton	50 00			50 00
7	5048	Vincent Kuhns	50 00			50 00
7	5060	Geo. Kerres	25 00	5 00		30 00
12	5079	E. A. Field	25 00			25 00
12	5080	Frank A. Smith	20 00			20 00
21	5077	M. Livingston	50 00	5 00		55 00
23	4858	M. A. Masters	50 00	5 00		55 00
23	5078	H. A. Gross	50 00	5 00		55 00
June 6	5104	W. C. Shane	50 00	5 00		55 00
6	5076	Leonard Mounts	20 00			20 00
16	5085	D. B. Gallogly	25 00			25 00
16	5084	D. B. Gallogly	25 00			25 00
16	5086	D. B. Gallogly	25 00			25 00
16	5087	D. B. Gallogly	25 00			25 00
16	5088	R. D. Reisinger	25 00			25 00
16	5089	Elden B. Frase	25 00			25 00
16	5090	Elden B. Frase	25 00			25 00
16	5091	Dr. F. X. Adams	25 00			25 00
18	5072	Joseph Ehrlich		5 00	35	5 35
30	5097	L. Werner	50 00	5 00	1 00	56 00
30	5054	W. W. Green, Mgr.	50 00	5 00	1 00	56 00
30	5064	Edward E. Mills	50 00	5 00	1 00	56 00
30	5065	Phillip Barth	6 15	5 00	1 00	12 15

STATEMENT OF FINES AND FEES RECEIVED AND PAID TO TREASURER OF STATE FOR GENERAL REVENUE FUND AND USES AND PURPOSES — Concluded.

Date.	Case No.	State of Ohio vs.	Fine.	Analysis Fees.	Inspection Costs.	Total.
	30	5055 F. F. Sanernheimer.....	10 70	5 00	1 00	16 70
	30	5019 T. J. Scanlon.....	15 00			15 00
	30	4978 Wm. Kunze.....	19 85	5 00		24 85
July	18	5052 Christ Louis.....	35 00			35 00
	21	4496 C. R. Bruner.....	50 00	5 00		55 00
	21	5116 Jesse K. Coulter.....	20 00			20 00
	23	5107 Chas. DeChiara.....	20 00			20 00
	23	5105 John J. Louis.....	35 00			35 00
	23	5117 Charles Santos.....	50 00			50 00
	23	5118 Charley Hovert.....	50 00			50 00
	23	5114 Arthur V. Kiesling.....	25 00			25 00
	30	5124 Jessie Francis.....	25 00			25 00
	30	5115 Clyde Calvert.....	10 00			10 00
	30	5119 Herman Ahler.....	10 00			10 00
	30	5121 William Rankin.....	10 00			10 00
Aug.	27	5124 Joseph Jameson.....	20 00			20 00
	27	5129 H. T. Phillips.....	15 00			15 00
	27	5128 D. P. Camp.....	15 00			15 00
Sept.	14	5126 Jackson A. Frank.....	20 00			20 00
	14	5167 W. A. Hewitt.....	50 00	5 00		55 00
	19	5169 Dr. A. G. Henry.....	25 00			25 00
	23	5155 A. B. Bishop.....	50 00	5 00	1 00	56 00
	23	5127 C. A. Smallwood.....	50 00	5 00	1 00	56 00
	23	5099 Chas. Graber.....	50 00	5 00	1 00	56 00
	23	5100 Thomas Farren.....	15 45	5 00	1 00	21 45
Oct.	1	5187 John Imes.....	25 00		1 00	26 00
	15	5193 Catharine Nicol.....	50 00	5 00		55 00
	15	5194 J. C. Evans.....	50 00	5 00		55 00
	15	5186 Alex Barnes.....	25 00			25 00
	15	5092 Edmond A. Moses.....	125 00			125 00
	15	5188 Frank R. Smith.....	50 00			50 00
	15	5189 Frank L. Kinsey.....	50 00			50 00
	15	5206 W. A. Winkler.....	25 00	5 00	2 50	32 50
	15	5203 Phillip Palmer.....	15 00		1 00	16 00
	26	4893 G. Silvestri.....		5 00		5 00
	26	5172 Henry Taylor.....	25 00	5 00	2 00	32 00
Nov.	2	4952 Wm. J. Hohl.....		5 00	35	5 35
		Total received from Prosecution fees and fines.....	\$4,252 05	\$320 00	\$57 25	\$4,629 30

WITNESS FEES AND MILEAGE.

Date.		Amount.	Total.
1914.			
Mar. 13	E. W. Harrington, Inspector.....	\$7 40	
14	E. W. Harrington, Inspector.....	7 40	
24	E. W. Harrington, Inspector.....	1 50	
Apr. 7	W. R. Hower, Inspector.....	1 50	
24	A. C. Johnston, Inspector.....	23 00	
June 6	W. R. Hower, Inspector.....	1 50	
6	E. W. Harrington, Inspector.....	1 50	
8	A. C. Johnston, Inspector.....	1 50	
Oct. 15	A. C. Johnston, Inspector.....	2 00	
15	W. R. Hower, Inspector.....	1 00	
	Total received from Witness Fees and Mileage		\$48 30

STATUTORY FEES FOR METER PROVER TESTS.

Date.		Amount.	Total.
1913.			
Dec. 9	Portsmouth Gas Co.....	\$5 00	
1914.			
Jan. 3	The East Ohio Gas Company.....	5 00	
14	Dr. J. M. Thompson, Central Guernsey Co..	5 00	
Feb. 28	The Miami Valley Gas and Fuel Co.....	5 00	
Mar. 6	United Fuel and Gas Co.....	5 00	
24	The River Gas Company.....	5 00	
24	J. B. Sparling.....	5 00	
Apr. 8	The American Gas Co.....	5 00	
28	The National Oil and Gas Co.....	5 00	
24	The Central Gas Co.....	5 00	
May 11	The Hamilton Utility Co.....	5 00	
11	The Springfield Gas Co.....	5 00	
13	United Fuel Gas Co.....	5 00	
15	The East Ohio Gas Co.....	5 00	
20	The River Gas Co.....	5 00	
20	The Middletown Gas and Electric Co.....	5 00	
21	The East Ohio Gas Company.....	5 00	
June 16	The Killbuck and Millersburg Oil & Gas Co..	5 00	
28	The City of Hamilton, O.....	5 00	
July 1	The Van Wert Gas Light Co.....	5 00	
8	The Logan Natural Gas and Fuel Co.....	5 00	
8	Jantha Light and Fuel Co.....	5 00	
10	R. J. Berry.....	5 00	
10	The East Ohio Gas Co.....	5 00	
11	The Jantha Light and Fuel Co.....	5 00	
11	The Lima Natural Gas Co.....	5 00	
21	The Delphos Gas Co.....	5 00	
21	The Springfield Gas Co.....	5 00	
21	The East Ohio Gas Co.....	5 00	
21	The Coshocton Gas Co.....	5 00	

STATUTORY FEES FOR METER PROVER TESTS—Concluded.

Date.		Amount.	Total.
Aug. 27	The East Ohio Gas Co.....	5 00	
27	The American Gas Co.....	5 00	
27	The Washington Gas & Electric Co.....	5 00	
27	The Columbus Natural Gas Co.....	10 00	
27	The East Ohio Gas Co.....	5 00	
27	The East Ohio Gas Co.....	5 00	
27	The North Eastern Oil and Gas Co.....	5 00	
27	The North Eastern Oil and Gas Co.....	5 00	
27	The Lima Natural Gas Co.....	5 00	
27	The East Ohio Gas Co.....	5 00	
Sept. 3	The Scott Oil and Gas Co.....	5 00	
14	The Forest Gas and Oil Co.....	5 00	
14	The Worth Oil and Gas Co.....	5 00	
26	The Allison Gas and Power Co.....	5 00	
Oct. 15	The Union Gas and Electric Co.....	10 00	
26	The Delaware Gas Co.....	5 00	
Nov. 2	The Utica Gas, Oil and Mining Co.....	5 00	
	Total received for meter prover tests....		\$245 00

SUMMARY OF FINES AND FEES RECEIVED, AND PAYMENTS TO
TREASURER OF STATE, FOR GENERAL REVENUE AND
USES AND PURPOSES.

Date.		Amount.	Total.
	Amount received in fines.....	\$4,252 05	
	Amount received in analyses fees.....	320 00	
	Amount received in inspection costs.....	57 25	
	Amount received in witness fees.....	48 30	
	Amount received in fees for meter prover tests	245 00	
	Total received		\$4,922 60
1913.			
Nov. 24	For General Revenue.....	\$39 30	
Dec. 1	For General Revenue.....	55 00	
8	For General Revenue.....	65 00	
15	For General Revenue.....	93 25	
22	For General Revenue.....	186 00	
29	For General Revenue.....	15 00	
1914.			
Jan. 5	For General Revenue.....	5 00	
12	For General Revenue.....	126 00	
19	For General Revenue.....	66 00	
26	For General Revenue.....	415 00	
Feb. 2	For General Revenue.....	100 00	
9	For General Revenue.....	45 00	
16	For General Revenue.....	70 00	

**SUMMARY OF FINES AND FEES RECEIVED AND PAYMENTS TO
TREASURER OF STATE, FOR GENERAL REVENUE AND
USES AND PURPOSES — Concluded.**

Date.		Amount.	Total.
Mar. 2	For General Revenue.....	239 40	
9	For General Revenue.....	55 00	
16	For General Revenue.....	139 80	
30	For General Revenue.....	104 50	
Apr. 6	For General Revenue.....	30 00	
13	For General Revenue.....	102 80	
	Total for General Revenue.....		\$1,952 05
27	For Uses and Purposes.....	\$588 70	
May 4	For Uses and Purposes.....	156 00	
7	For Uses and Purposes.....	135 00	
18	For Uses and Purposes.....	65 00	
25	For Uses and Purposes.....	180 00	
June 8	For Uses and Purposes.....	79 50	
29	For Uses and Purposes.....	452 05	
July 27	For Uses and Purposes.....	320 00	
Aug. 31	For Uses and Purposes.....	185 00	
Sept. 21	For Uses and Purposes.....	115 00	
Oct. 26	For Uses and Purposes.....	683 95	
Nov. 2	For Uses and Purposes.....	10 35	
	Total for Uses and Purposes.....		\$2,970 55
	Total paid to Treasurer of State.....		\$4,922 60

INVENTORY

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INVENTORY.

DAIRY AND FOOD DIVISION.

Room No. 1.

FURNISHINGS:

Bookcase, (Macey) five section, top and bottom.....	\$25 00
Chair, revolving desk	40 00
Chair, oak, leather upholstered.....	20 00
Chair, leather rocker.....	25 00
Couch, leather, and pillow.....	25 00
Cuspidor, brass and rubber mat.....	1 00
Desk, roll top.....	65 00
Drugget	5 00
Hat tree, oak.....	10 00
Ink well, fountain.....	25
Magazine stand, oak.....	7 00
Photo, Dairy and Food Exhibit.....	10 00
Rug, 9 x 12 ft.....	50 00
Shade, window	5 00
Screen, three panel	5 00
Ventilator, window	1 50
Waste basket, oak.....	1 00

Books:

Encyclopedia, New International, 21 vols.....	.....
Journal American Chemical Society, 41 vols.....	.....
Report Bureau of Animal Industry, 2 vols.....	.....
Year Book, 7 vols.....	.....

\$295 75

Room No. 2.

FURNISHINGS:

Bookcase, (Macey) six sections, top and base.....	\$33 00
Chair, Swivel desk.....	17 00
Chair, bent oak	1 50
Chair, Oak, arm.....	2 50
Cuspidor, brass and mat.....	1 00
Desk, oak, roll top.....	45 00
Desk light	1 00
Drugget	5 00
Rug, 9 x 12 ft.....	50 00
Stamp, Self Inking.....	25
Screen, three panel	4 00
Shade, window	5 00
Waste basket	10

Books:

Dispensatory, U. S., 19th Edition.....	.....
General Code of Ohio, 7 vols. P. & A.....	42 50

\$207 85

Room No. 3.

FURNITURE:

Adding Machine	\$122 50
Awnings, two .....	.....
Bookcase, Macey, 6 sections, top and bottom.....	33 00
Bookcase, revolving	10 00
Bookcase, metal, ten shelves.....	65 00
Baskets, waste paper (5).....	50
Cabinet, Macey, 28 sections, 3 tops and 3 bases.....	175 00
Case, leather sample	10 00
Chairs, 3, oak arm.....	6 00
Chair, one, bent oak.....	1 00
Chair, oak swivel desk, heavy.....	12 00
Chairs, two small oak desk.....	10 00
Chairs, typewriter, two.....	10 00
Copy holders, two.....	6 00
Cupboard, cloak	5 00
Cuspidor, brass and mat.....	1 00
Cup, sponge	10
Dater	1 50
Desks, two flat top.....	45 00
Desk, one roll top.....	45 00
Desk, one roll top typewriter.....	20 00
Desk, flat top typewriter.....	5 00
Desk, flat top and letter copying outfit.....	8 00
Desk lights, two.....	1 00
Drinking cup holder	1 00
Drugget and rug, 10½ x 25 ft.....	90 00
Drugget and rug, 10½ x 13 ft.....	40 00
Fan, electric	18 00
Ink wells, fountain.....	75
Letter file, four sections with steel interior guides.....	100 00
Letter transfer case, four double sections.....	10 00
Letter file and document file case with bottom compartment.....	20 00
Letter trays, two wire.....	50
Neostyle, one rotary .....	.....
Scissors, three pair	90
Seal, W. & M. Dept.....	2 50
Staplers, two	1 50
Typewriter table	3 50
Typewriter, Underwood No. 107,876.....	42 08
Typewriter, Underwood, No. 112,846.....	85 00

Books:

Analysis, Commercial Organic.....	.....
Atlas of the World.....	.....
Annals of Ohio, Three Vols.....	.....
Animal Industry Reports, Six Vols.....	.....
Dockets, Nos. 1, 2, 3, 4, 5 and 6.....	.....
Dictionary, Webster	13 50
Dispensatory, two vols.	20 00
Directory, City	7 00
Dairy Technology	1 50
Food Analysis Records, 9 vols.....	.....

Fund Books, 3 vols.....	.....
Indexes .....	.....
Journal, Entry .....	.....
Journal, Nat'l. D. & F. Dept, 2 vols.....	.....
Ledgers, two .....	.....
Laws of Ohio, 2 vols.....	.....
Nat'l. A'ssn. D. & F. Dept, 8 vols.....	.....
Postal Guide	3 50
Pharmacopeia, U. S., 2 vols.....	.....
Prosecution copy books, requests for, (3).....	.....
Vinegar and Catsup.....	1 00
Year Book, Dept. of Agriculture, 9 vols.....	.....

\$1,056 33

Room No. 4.

Buzzer system for five rooms.....	.....
Booth, telephone	50 00
Cabinet, magazine filing.....	8 00
Cabinet, filing, (Macey) top and base, 10 half sections.....	65 00
Chair, oak arm	2 00
Couch, leather .....	.....
Desk, flat top and chair.....	5 00
Drugget and rug.....	30 00
Help-a-phones, three.....	3 00
Mail boxes, sheet iron.....	.....
Table, oak	3 00
Umbrella and hat rack.....	1 50

\$167 50

Room No. 5.

Badges, 19 inspectors	30 00
Baskets, waste, 6.....	60
Cabinet, one steel, ledger.....	35 00
Case, 6 section, oak, sample.....	45 00
Chairs, three oak arm.....	6 00
Cuspidors, three iron.....	50
Copying outfit, letter.....	3 00
Cup, sponge	10
Daters, two self inking.....	2 50
Desk, roll top.....	20 00
Desk, high and revolving stool.....	8 00
Desk lamps, two.....	2 00
Dictionary, Thesaurus	5 00
Drinking cup holder.....	1 00
Drugget and rug.....	20 00
Filing Cases, four sections metal.....	250 00
Ink wells, 8 glass	2 00
Ladder, one, two step.....	.....
Lockers, three, four section, keys.....	30 00
Maps, two U. S., Creameries and Cheese factories.....	.....
Matting, 50 feet, four rooms.....	20 00
Safe	50 00
Scale, postal	2 50

Seal, Notarial	2 50
Scrap book .....	.....
Stamps, miscellaneous	50
Sharpener, pencil	3 00
Stand, shoe shining .....	.....
Sweeper, electric	12 00
Table, oak	15 00

\$578 20
Room No. 6.**FURNITURE:**

Cabinet and tools.....	\$4 00
Clock	8 00
Chairs, two swivel office.....	6 00
Chair, typewriter	2 50
Chair, straight back, oak.....	2 00
Copy holder.....	.....
Desk, roll top, oak.....	15 00
Desk, flat top, oak.....	20 00
Desk, typewriter	3 00
Filing Cabinet, two sections and stand.....	15 00
Letter file, four sections, vertical.....	20 00
Photograph, dairy and food exhibit, O. S. F.....	8 00
Rug, 9 x 21 ft.....	30 00
Rug, 9 x 9 ft. and drugget.....	20 00
Stand, oak	1 00
Table, eight foot oak.....	3 00
Typewriter, Underwood, No. 607,677.....	65 00
Vise	1 50
Writerpress	185 00

APPARATUS:

Balance, two point suspension, Wts. shipping case.....	175 00
Balance, 50 pound office, in case.....	250 00
Balance, 50 pound, long arm, office, in case.....	300 00
Balance, 10 pound, long arm, office, in case.....	250 00
Balance, 1 pound, long arm, office, in case.....	100 00
Cubic foot bottle, at O. S. U.....	100 00
Cubic inch graduate.....	2 50
Dies, Miscellaneous	5 00
Dry Measures —	
Deciliter, U. S. Standard, No. 16.....	75 00
Liter, U. S. Standard, No. 16.....	25 00
Half Bushel, brass, U. S. Standard.....	110 00
Peck, Brass, U. S. Standard; Half-peck, Brass, U. S. Standard; Quarter-peck, Brass, U. S. Standard; Quart, Brass, U. S. Standard; Pint, Brass, U. S. Standard; Half-pint, Brass, U. S. Standard.....	208 00
Quart, Aluminum	6 00
Hopper funnel	10 00
Inspection Outfits, two portable.....	.....
Balances, two portable.....	70 00
Carrying cases, two leather.....	23 00
Glass graduate, one.....	5 00

Dry measure gauges, two.....	4 00
Steel tapes, two six foot.....	2 80
Weights, two sets, nickel plated.....	35 60
4, 2-pound; 2, 1-ounce;	
2, 1-pound; 2, ½-ounce;	
2, 8-ounce; 2¼-ounce;	
2, 4-ounce; 2, ⅛-ounce;	
2, 2-ounce; 3, ⅛-ounce.	
Weights, two sets grain.....	5 50
Hammer, one	50
Nippers, two	1 50
Screw drivers, two	50
Levels, two.....	1 00
Lead tamping punches, two.....	50
Linear Measures—	
Meter, U. S. Standard Steel, No. 16.....	5 00
Yard, U. S. Standard Brass.....	20 00
Liquid Measures; set brass.....	150 00
1, 1-gallon;	
1, ½-gallon;	
1, 1-quart;	
1, 1-pint;	
1, ½-pint;	
1, glass graduate.	
Monkey Wrench, 21-inch.....	1 80
Seal presses, two.....	5 00
Sealing block	75
Scale, platform, with measuring device.....	30 00
Seal, official Weights and Measures.....	1 50
Spring Scale and Stand.....	4 00
WEIGHTS:	
Weights, three brass metric, in case.....	75 00
Weights, set Av., in case.....	38 50
1, 8-ounce; 1, ½-ounce;	
1, 4-ounce; 1, ¼-ounce;	
1, 2-ounce; 1, ⅛-ounce;	
1, 1-ounce;	
1 lot fractional weights	
Weights, set fractional grain, in case.....	75
Weights, set standard Troy, in case.....	30 00.
1-10 oz. 1-10-pwt.	
1-6 oz. 1-8 pwt.	
1-5 oz. 1-6 pwt.	
1-4 oz. 1-4 pwt.	
1-3 oz. 1-2 pwt.	
1-2 oz. One lot fractional parts.	
1-1 oz. Two weight hooks.	
Weights, set grain, in case.....	3 50
1-20 gr. Brass.	
1-10 gr. Aluminum.	
1-5 gr. 1-2 gr.	
2-2 gr. 1-1 gr.	
1-1 gr. One tweezer.	
1 .5 gr.	
Weights, Set Gold plated.....	248 00

1, 50-pound.	1, 3-pound.	
1, 25-pound.	1, 2-pound.	
1, 20-pound.	1, 1-pound.	
1, 10-pound.	1, 1-pound Troy.	
1, 5-pound.	Weight hooks, two.	
1, 4-pound.		
Weights, Nickel plated —		
1, 25-pound		13 50
2, 10-pound		21 00
2, 5-pound		6 00
Weights, 20 cast iron.		60 00
		<hr/>
		\$2,891 70

STOCK ROOM.

Brush, floor	75
Cabinet tops	
Dust Mop	75
Lanterns, two	50
Ladder, step	75
Seal D. & F. Dept.....	50
Show case, eight foot glass.....	5 00
Sweeper	
Transfer file cases and stand.....	5 00
Truck	10 00
Tool chest	
	<hr/>
	\$23 25

TRAVELING FAIR EXHIBIT.

Tent	168 00
Tools	15 00
Shipping cases, nine.....	75 00
Shelving and fixtures.....	50 00
Signs	20 00
	<hr/>
	\$328 00

FIELD FORCE APPARATUS.

Inspector Gault —		
Babcock tester and equipment.....		18 00
Weights, set Metric Gram.....		5 00
Seal press and dies.....		2 65
Inspector Mesloh —		
Sediment tester		8 00
Babcock tester and equipment.....		18 00
Weights, set Metric Gram.....		5 00
Seal press and dies.....		2 65
Inspector Nixon —		
Sediment tester		8 00
Babcock tester and equipment.....		18 00
Weights, set Metric Gram.....		5 00
Seal press and dies.....		2 65

Inspector Pontius—	
Babcock tester and equipment.....	18 00
Weights, set Metric Gram.....	5 00
Seal press and dies.....	2 65
Inspector Wagner—	
Babcock tester and equipment.....	18 00
Weights, set Metric Gram.....	5 00
Seal press and dies.....	2 65
Inspector Mawer—	
Egg Candler	3 00
Egg Chart	3 00
Inspector Gear—	
Sample Case	50
Siphon tubes, two	50
Egg Candler	1 50
Inspector Robeson—	
Grip and Egg candler.....	5 00
Inspector Dotter—	
Egg Candler	4 50
Inspector Styers—	
Egg Candler	1 50
Inspector Masterson—	
Egg Candler	4 50
Inspector Corry—	
Egg Candler	4 50
Inspector Fisher—	
Egg Candler	4 50
Inspector Campbell—	
Egg Candler	4 50
	<hr/>
	\$181 75

RECAPITULATION BY ROOMS.

Room No. 1	\$295 75
Room No. 2	207 85
Room No. 3	1,056 33
Room No. 4	167 50
Room No. 5	578 20
Room No. 6	2,891 70
Field Force Apparatus.....	181 75
Traveling Fair Exhibit.....	328 00
Stock Room	23 25
	<hr/>
Grand Total	\$5,730 33

Forty-Fourth Annual Report

OF THE

BOARD OF TRUSTEES

OF

The Ohio State University

TO THE

GOVERNOR OF OHIO

FOR THE

YEAR ENDING JUNE 30

1914

OFFICE OF THE BOARD OF TRUSTEES, THE OHIO STATE UNIVERSITY

COLUMBUS, OHIO, October 1, 1914

Honorable JAMES M. COX, Governor of the State of Ohio:

SIR:—I have the honor to transmit herewith the forty-fourth annual report of the Board of Trustees of The Ohio State University.

The report, as usual, contains such statements and exhibits as are necessary to show the financial transactions of the past year, and the manner in detail of receiving and disbursing the various funds; also such other information as may be of general interest or required by law.

The Annual Report of the President of the University to the Board of Trustees is made a part of this report.

All of which is respectfully submitted.

CARL E. STEEB,
Secretary.

ANNUAL REPORT OF THE PRESIDENT

Honorable JULIUS F. STONE, Chairman of the Board of Trustees, The Ohio State University.

DEAR SIR: — I have the honor to present through you, to the Board of Trustees of the Ohio State University for transmission to the Governor of Ohio, as required by law, the forty-fourth annual report of the President of the Ohio State University for the year ending June 30, 1914.

THE BOARD OF TRUSTEES

The term of office of the Honorable Walter J. Sears expired May 13, 1914. Up to the time of writing this report no successor has been appointed and Mr. Sears continues to serve under the Statutes until a successor is duly appointed and qualified.

THE FACULTY

During the year an unusual number of changes for one reason and another have occurred.

On July 17, 1913, Mrs. Mary Rebecca Laver died. For nearly six years she had been in active service in the University in the department of Art, succeeding Miss Bracken as head of the department. She showed a high order of organizing ability, a keen appreciation of the subject and was herself an effective teacher.

The death of Dr. A. M. Jansen occurred January 4, 1914, due to infection in the bacteriology laboratory while experimenting with glanders. Dr. Jansen was one of the younger men recently appointed and gave great promise of effective service.

On February 15, 1914, occurred the death of Josiah Renick Smith, Professor of Greek. Professor Smith spent almost his entire academic life in the service of the University having been originally appointed in 1876. After graduating from Amherst College in 1871 he spent a short period in the public schools in the city of Columbus and in 1876 received his first appointment. From this time his service was continuous except for two short periods spent in study on leave of absence in Europe. Professor Smith exemplified in his life and character the rich privilege of education and culture. He was an enthusiastic teacher, a courteous gentleman, universally beloved and unswervingly devoted to the finer things in life and education. Few men serve so long and so acceptably. His death at the age of sixty-three seemed premature and untimely.

Through the courtesy of the Capital University the services of Professor R. V. Schmitt were secured to assist in carrying the work in Greek for the remainder of the academic year.

A very unusual experience in the history of the University occurred when there disappeared Cecil F. Lavell, Professor of History of Education, as successor to Professor Frank P. Graves, who had gone to the University of Pennsylvania. All efforts to locate Mr. Lavell or to account for his disappearance were futile. No well attested facts in the case were available. In the short period of service he had won the enthusiastic support of his classes and was steadily winning his way in the University.

RESIGNATIONS

At a meeting of the Trustees June 27, 1913, the resignation of Professor E. A. Hitchcock of the department of Mechanical Engineering was accepted, to take effect June 30, 1913.

The following resignations were presented and accepted during the year:

Meeting of Trustees, July 24, 1913—

Miss Ruth Wardall, Professor of Home Economics, to accept a similar position in the Iowa University, Iowa City, Iowa.

Henry W. Vaughan, Assistant Professor of Animal Husbandry, to accept a similar position in the Iowa State College of Agriculture and Mechanic Arts.

Miss Mirpah Blair, Head Cataloguer in the Library, to accept a similar position in the Oregon State Library, Salem.

Meeting of the Trustees, July 25, 1913—

F. K. Pence, Professor of Ceramic Engineering, resigned to return to the Encaustic Tile Works, Zanesville, Ohio, as Chemist, where he had served for a number of years.

H. F. Staley, Professor of Ceramic Engineering, resigned to accept a commercial position.

Meeting of the Trustees, August 6, 1913—

Alexander Vallance, Assistant Professor Experimental Engineering.

Meeting of the Trustees, September 19, 1913—

F. P. Graves, Professor of History and Philosophy of Education, to accept a similar position at the University of Pennsylvania.

J. A. Wilkinson, Assistant Professor of Chemistry, to accept a similar position at the Iowa State College of Agriculture and Mechanic Arts.

R. N. Waid, Instructor in Civil Engineering.

R. C. McCall, Assistant in Civil Engineering.

Catherine C. Creamer, Assistant in Home Economics.

George O. Weimer, Assistant in Physics.

Eloise Ramsey, Fellow in English.

Lester Edwin Mitchell, Fellow in English.

Clara F. Miles, Fellow in English.

Elva H. Grafton, Fellow in Chemistry.

Jude Underwood, Fellow in Chemistry.

Meeting of Trustees, October 20, 1913—

Stockton Raymond of the Department of Economics.
Chas. P. Crowe, Instructor in Forging.

Meeting of Trustees, March 6, 1914—

H. F. Harrington, Assistant Professor of English in charge of the courses in Journalism, resigned to organize a department of Journalism in Western Reserve University.

Meeting of Trustees, March 19, 1914—

W. W. Boyd, Dean of the College of Education, resigned to accept the presidency of the Western College for Women at Oxford. Mr. Boyd began service in the University in the year 1902, as high school visitor, and in 1907 became the first Dean of the College of Education.

Meeting of Trustees, June 16, 1914—

John S. Ankeney of the University of Missouri, elected Professor of Art, resigned before entering upon his duties.

APPOINTMENTS

The following new appointments for the year 1913-1914 were made at the meeting of the Trustees July 25, 1913:

Miss Alice Crane, Assistant in Home Economics.
J. L. Busby, Assistant in Anatomy and Physiology.
Don F. Russell, Assistant in Anatomy and Physiology.
Ralph E. Wilson, Assistant in Economics and Sociology.
Clyde O. Ruggles, Assistant Professor of Economics and Sociology.
Walter Verwiebe, Instructor in Geology.
H. C. Keidel, Instructor in German.
H. F. Dunham, Instructor in Romance Languages.
J. K. Ditchy, Instructor in Romance Languages.
Mary L. Shepherd, Instructor in Art.
Eldon L. Usry, Assistant Professor of Manual Training.
George F. Schlesinger, Instructor in Civil Engineering.

APPOINTMENTS

The following appointments were made during the year:

Meeting of the Trustees August 6, 1913—

Arthur S. Watts, Professor of Ceramic Engineering.
Carl E. Parry, Assistant Professor of Economics and Sociology.
Robert H. Neilan, Assistant in Mechanical Engineering.
Miss Zoe Walcott, Assistant in Home Economics.
Miss Sarah E. Stimmel, Assistant in Home Economics.
Mrs. Grace Walker, Assistant in Home Economics.
Miss Mabel Rogers, Assistant in Home Economics.

Meeting of the Trustees September 19, 1913—

F. W. Marquis, Professor of Steam Engineering.
Norman E. Scherer, Assistant Professor of Forestry.
Charles Ford Long, Assistant Professor of Chemistry (for the year).
Roscoe C. Sloane, Instructor in Civil Engineering.
Wilbert C. Ronan, Instructor in Architecture.

Aubrey I. Brown, Instructor in Mechanical Engineering.
 Rudolph Pintner, Instructor in Psychology.
 Earl W. McCoy, Assistant in Civil Engineering.
 James R. Wiley, Assistant in Animal Husbandry.
 G. O. Burrell, Assistant in Anatomy and Physiology.
 Joseph P. Hershberger, Assistant in Agronomy.
 Carleton Edgar Curran, Fellow in Chemistry.
 Emma Rower, Fellow in English.
 W. W. Ploch, Fellow in English.
 Beulah Wardall, Fellow in English.
 Helen Morningstar, Fellow in English.
 Ethel Morris, Fellow in English.
 Nelle Swartzel, Fellow in Agricultural Chemistry.
 Verle C. Smith, Assistant to the Dean of the College of Agriculture.
 Thomas Earle Moore, Fellow in Chemistry.

Meeting of the Trustees October 20, 1913—

L. W. St. John, Professor of Competitive and Recreative Athletics.
 John W. Wilce, Professor of Competitive and Recreative Athletics.
 Frank R. Castleman, Professor of Competitive and Recreative Athletics.
 Miss Emilie Catherine Renz, Instructor in Economics and Sociology.
 Mr. Theodore F. Kotz, Instructor in German.
 Alexander P. Moore, Instructor in Romance Languages.
 Wilmer C. Harris, Instructor in European History.
 Miss Lila Skinner, Assistant in Home Economics.
 Clayton Long, Assistant in Horticulture.
 Max Wershow, Assistant in Veterinary Medicine.
 Perry Wright, Assistant in Forging.
 Albert R. Shadle, Fellow in Zoology and Entomology.
 I. W. Geiger, Fellow in Chemistry.
 Miss Mary Kline, Fellow in Chemistry.
 Lee I. Smith, Fellow in Chemistry.
 Miss Evelyn Osborn, Fellow in Zoology and Entomology.
 Miss Helen Scott, Assistant in Home Economics.
 Miss Treva Kauffman, Assistant in Home Economics.
 Miss Mary Betz, Assistant in Home Economics.
 Miss Laure Anderson, Assistant in Home Economics.

Meeting of the Trustees November 7, 1913—

J. Forest Craig, Instructor in English.

Meeting of the Trustees December 12, 1913—

H. E. Boucher, Assistant in Physiology.
 Justus Howard Dice, Reference Assistant in Library.
 A. R. Mead of Columbia University, temporary Instructor for two months
 in the Department of History of Education.

Meeting of the Trustees January 27, 1913—

Henry B. Froning, Instructor in Bacteriology.
 D. D. Shira, Assistant in Department of Physiology.
 Mrs. Marion Lucas Garvin, Instructor in Home Economics.

Meeting of the Trustees February 17, 1914—

Lewis F. Anderson, Professor of the History of Education.

Meeting of the Trustees March 19, 1914—

George Melville Bolling, Professor of the Greek Language and Literature.

Meeting of the Trustees April 3, 1914—

Joseph S. Myers, Professor of Journalism.

LEAVE OF ABSENCE 1913-1914

Professor Charles S. Plumb, of the Department of Animal Husbandry.

Professor William Herbert Page, of the College of Law.

Professor James E. Hagerty, of the Department of Economics and Sociology.

Professor George H. McKnight, of the Department of English.

Professor Samuel C. Derby, of the Department of Latin.

Dr. Thomas Harvey Haines, of the Department of Psychology, (for second year).

Assistant Professor George Livingston, of the Department of Agronomy.

Mr. George R. Twiss, High School Visitor.

Professor F. A. McKenzie, (granted leave meeting of March 6, 1914).

Miss Olive Jones, (granted leave meeting of April 4, 1914). Librarian.

The above list of resignations, readjustments and appointments will suggest at once that the modern university having reached large proportions must constantly be on the search for teachers. Many of these changes are inevitable. Young men receive subordinate appointments, prove their efficiency, receive attractive offers either in educational or commercial service and feel obliged to accept. No criticism can be made of this situation.

Other appointments are temporary in character, such as assistants, graduate assistants, fellows and some others. The service rendered by such appointments is important but the character of it makes it temporary and, therefore, brings to the University the continuous problem of securing persons who are advancing their education while rendering a temporary service.

The vital thing in university administration is in the selection or retention of properly qualified men and women as professors. The strenuous demand for teachers has led to a very rapid promotion of young men and with it the selection of persons not always well suited for academic work. Experience would seem to indicate that the salary of a professor should be put at such a mark as to make it unnecessary to give the title of professor to any person who has not thoroughly demonstrated his fitness for the position. It is hoped that in the near future the Ohio State University can assume a more conservative attitude upon the appointment of persons to the rank of professor and a more generous attitude in the matter of the minimum salary for such rank.

The question of salary is always uppermost in the mind of administrative officers. No dead level theory of salary will ever build a strong faculty. No increase of salary will change the efficiency or determine the character of a professor. The desirable thing for the university

would be to have money available for salaries when needed. The standard of living would probably determine the general standard of salaries, but exceptional men should be treated in accordance with their merits even though the problem involved is one of the most difficult in university administration.

ENROLLMENT

As usual the summary of enrollment and of degrees granted is given in this report:

Graduate School	133		133
College of Agriculture—			
Undergraduates (Agr., Hort., Forestry, degree courses)	770		
Undergraduates (Home Economics, Degree Course) ..	286		
Undergraduates (Certificate courses)	191		1,247
College of Arts, Philosophy and Science	952		952
College of Education	187		187
College of Engineering—			
Undergraduates (degree courses)	867		
Undergraduates (certificate courses)	21		888
College of Law	187		187
College of Pharmacy	95		95
College of Veterinary Medicine	162		162
Total			3,851
Names counted twice			22
Net total (Academic year)			3,829
Summer Session 1913—			
Graduate School	86		
College of Agriculture	58		
College of Arts	231		
College of Education	149		
Arts-Education	4		
College of Engineering	133		
College of Pharmacy	4		
College of Veterinary Medicine	6	671	
Lake Laboratory 1913—			
Graduate School	16		
Undergraduates	16	32	708
Winter Course in Agriculture, 1914	203		203
Total			4,735
Names counted twice			300
Grand net total for year			4,435

DEGREES

At the Commencement held on June 17, 1914, the University granted a total of 608 degrees. These were distributed as follows:

Graduate School	55
College of Agriculture	162
College of Arts, Philosophy and Science	176
College of Education	28
College of Engineering	117
College of Law	21
College of Pharmacy	6
College of Veterinary Medicine	43
Total	608

In addition to the degrees granted, certificates for the completion of courses not leading to degrees were granted as follows:

College of Law.....	16
College of Pharmacy.....	16
Total	32
Degrees granted during present academic year.....	32
Total number of degrees and certificates granted for the year ending June 17, 1914.....	640

This total net enrollment of 4,435 as against 3,969 for the previous year proves again that the progress of education in Ohio is on a substantial basis. For twenty years the University has steadily increased its enrollment, and there seems now no reason to believe that with the increase of wealth in the State, the increase of population, the rising standards of living and other factors, the university enrollment would not continue to increase for some years to come. What the limitation if any, to the modern state university shall be is not yet clearly discernible. Economic and industrial conditions may have an important bearing upon this problem, but comparisons with other states and with the urban universities of the East would indicate that from six to eight thousand students may be expected in the most important educational centers of the country.

The Ohio State University will probably be no exception to the rule and the state may anticipate the necessity of providing for a much larger enrollment than here recorded.

The increase in the number of degrees and certificates granted from 547 to 640 will indicate also that an increasing number of students find themselves able to complete courses of study. The certificates are confined to those who have completed professional courses in Law and Pharmacy.

SUMMER SESSION 1914

Following the usual custom the report for the Summer Session of 1914 is given because the report is usually written after the close of the Summer Session and because the statistics are desired for use during the current year.

TOTAL ATTENDANCE		
	1913	1914
At Columbus	673	928
At Lake Laboratory	31	14
Total	704	942

COLLEGIATE DISTRIBUTION		
College of Agriculture.....	53	83
College of Arts, Philosophy and Science.....	229	238
College of Education.....	150	283
College of Engineering.....	134	167
College of Pharmacy.....	4	10
College of Veterinary Medicine.....	6	6
Graduate School	95	125
Auditors	2	....
Home Makers .....	....	16
	673	928

OCCUPATION OF STUDENTS		
College Instructors	21	25
High School Superintendents.....	23	50
High School Principals.....	13	30
High School Teachers.....	226	310
College Students	359	420
Miscellaneous .....	....	35
Unclassified	31	58
Total	673	928

PREPARATION OF STUDENTS		
Holding Degrees	175	244
Collegiate	496	684
Below Collegiate	2	0
Total	673	928

The enrollment for 1914 determines clearly that the decreased appropriation for 1913 was the cause of the lighter enrollment for that year. The increased appropriation for 1914 allowing a wider distribution for work determined what experience has proved for the past five years, namely that the attendance for the Summer Session at the Ohio State University is due to the character of the work offered and the opportunity for advanced students to make annual progress in their education. An examination into the situation will disclose the fact

that the Ohio State University is the only Institution in the State insisting upon entrance requirements of 15 units for enrollment. This has resulted in bringing three classes of students to the Summer Session. First, those who are anxious to increase their credits in college studies as a part of their undergraduate work; second, those who are teaching or engaged in other occupations where a Summer may be utilized for some definite work toward a degree and; third, graduate students, who holding the undergraduate degree are candidates for an advanced degree and engaged in meeting these requirements through a series of Summer Sessions. This makes it desirable that the program of studies in the Summer Session should be announced definitely for a year or two in advance so that students desiring advanced courses could, by consulting the catalog know what was possible at the University.

Reference to the statistics will show that the attendance is chiefly in four divisions corresponding in the main to the above remarks. The occupation of students will also confirm this statement. It is a matter of interest and some pride that as many as 244 students of the Summer Session were holders of degrees.

For the first time an exceptional movement was undertaken known as the School for Superintendents. The purpose of this was to bring to county superintendents, district superintendents, village superintendents and those anticipating that kind of service a course for six weeks that would meet the requirements of the new school code from a professional point of view and at the same time provide instruction in and discussion of the problems of supervision and administration. About seventy-five men and women of mature experience enrolled in this course and found it profitable. Two County Superintendents, George W. Brown of Paris, Illinois, and Mr. Richard Park of Sullivan, Indiana, were brought for a week each with the distinct purpose of presenting to the Superintendents of Ohio results of experiences in our neighboring commonwealths. These men rendered a very distinct and helpful service. Other men of Ohio and members of the faculty joined in the work of instruction and in presenting lectures.

Several of the State agencies, including the Superintendent of Public Instruction and State Board of Health appeared before the School for Superintendents with valuable discussions and lectures upon the relation of these agencies to the public school system. The fact that Ohio was entering upon the new era in school supervision seemed to justify this new departure as a temporary provision to meet an existing need.

SOCIAL STATISTICS

From year to year it has seemed desirable to include in this report the occupational and religious statistics of the student body. This list is in no way compulsory upon the student, but each year has proved itself valuable by bringing to interested parties the information needed

concerning the constituency served by the University. No statement made by the University could be more illuminating as to the service rendered to the people of the state than this collection of data made by the student himself before he enrolls.

A slight misapprehension on the part of some due to feeling that we are inquiring into private business probably prevents some few students from furnishing the information. No personal use is made of these statistics, but appearing as they do in the report, the student of education or of the University's activities will be highly pleased with the exhibit presented in these tables.

RELIGIOUS STATISTICS 1914-15

Adventist	2	Interdenominational	1
Baptist	185	Jewish	72
Brethren	121	Lutheran	270
Catholic	263	Mennonite	9
Christian	187	Methodist	1,444
Christian Science.....	13	Moravian	1
Christian Union.....	4	Mormon	2
Church of God.....	3	Presbyterian	746
Confucius	2	Protestant	38
Congregationalists	259	Quakers	6
Disciple	55	Reformed	120
Dunkard	1	Spiritualist	1
Episcopalian	168	Union	3
Evangelical	43	Unitarian	12
Friends	19	United Presbyterian.....	35
Gospel	2	Universalist	29
Gregorian	5	Zions Reformed	1
Hindu	2	None Given.....	271

OCCUPATIONAL STATISTICS OF PARENTS, 1914-1915

Architects	7	Coal Operators and Oil Pro- ducers	20
Artisans	17	Contractors	86
Attorneys and Judges.....	119	Dairymen	14
Auctioneers	1	Dentists	18
Bacteriologists	1	Druggists	49
Bakers	3	Editors	11
Bankers	27	Electricians	7
Barbers	11	Electrical Engineers.....	4
Blacksmiths	18	Farmers	1,089
Brewers	1	Florist and Gardeners.....	27
Brokers	5	Foremen	36
Business Men.....	17	Grocers	56
Butchers	8	Insurance	48
Carpenters	64	Inventors	1
Caterers and Cooks.....	6	Janitors	12
Chiroprodists	1	Jewelers	15
Civil Engineers.....	18	Laborers.	25
Clergymen	75	Laundrymen	6
Clerks and Accountants.....	113		

Librarians	2	Public Service.....	127
Liverymen and Teamsters.....	15	Publishers and Printers.....	15
Managers and Superintendents...	143	Railroad Employees.....	134
Manufacturers	111	Real Estate.....	52
Mechanical Engineers.....	11	Restaurant and Hotel Keepers...	10
Mechanics	137	Retired	115
Merchants	346	Salesmen	153
Millers	10	Shoemakers	5
Miners	8	Stationery Engineers.....	10
Mining Engineers.....	5	Stock Dealers.....	15
Optometrists	2	Tailors	27
Painters and Decorators.....	27	Tanners	1
Photographers	5	Tinners	5
Physicians	156	Undertakers	5
Plumbers	12	Veterinary Surgeons.....	7
Professors and Teachers.....	86	None given.....	603

APPROPRIATIONS

Following the custom of other years this report includes for convenient reference, the Appropriation Bill as in force for the current year.

The Legislature at its last session repealed the appropriation bill as outlined in the Annual Report for the year ending June 30, 1913, and appropriated in place of it the following amounts (see House Bill 47, passed February 16, 1914):

GENERAL APPROPRIATION BILL

Personal Service—

A-1	\$84,620 00	
B-1	11,850 00	
		\$96,470 00

Maintenance—

C-3	\$25,285 00	
C-4	2,562 50	
C-8	156 00	
C-9	642 60	
C-10	16 20	
C-11	7,030 00	
		\$35,692 30

D-1	500 00	
D-3	7,000 00	
		7,500 00

E-1	400 00	
E-4	3,000 00	
E-5	198 00	
E-8	53,800 00	
E-9	27,000 00	
		\$84,398 00

EXECUTIVE DOCUMENTS.

F-1	10,000 00	
F-3	8,160 00	
F-4	9,902 70	
F-6	3,200 00	
F-7	250 00	
F-8	25,000 00	
F-10	102,842 00	
	<hr/>	159,354 70
		286,945 00
H		42,000 00
		<hr/>
		\$425,415 00

SUNDRY APPROPRIATION BILL

Extension Tunnel System.....	\$7,653 00	
Summer Session 1914.....	5,000 00	
	<hr/>	\$12,653 00
		<hr/>
		\$438,068 00

The Legislature also appropriated \$3,750.00 relief to Grace A. Jansen.

The Board of Trustees distributed the above appropriations in accordance with the following classification:

ANALYSIS OF APPROPRIATION BILL BY CLASSIFICATION IN PRESENT USE

SALARIES A-1

General Budget	\$35,000 00	
Teacher's Contingency	10,000 00	
College of Agriculture.....	15,000 00	
	<hr/>	\$60,000 00

BETTERMENT OF BUILDINGS

Wages B-1

2 Carpenters	\$2,200 00	
1 Painter	900 00	
1 Tinner	960 00	
Materials D-3	7,000 00	
Painting, Plumbing, wiring, F-8..	8,000 00	
Heater and paint brushes, E-9.....	215 00	
	<hr/>	19,275 00

ROADS AND GROUNDS

Wages B-1

4 Campus Men.....	2,640 00	
Care of Shrubs.....	250 00	
Extra Labor	50 00	
	<hr/>	2,940 00

Grass seed, fertilizer, shrubs, C-9.....	642 60	
Gasoline for mower, C-10.....	16 20	
Oil, etc., C-11.....	30 00	
Highway materials, D-1.....	500 00	
Motorless vehicles, E-5.....	48 00	
Concrete mixer, E-9.....	500 00	
Sidewalks, F-8	6,394 90	
Roads, F-8	4,800 00	
	<hr/>	15,871 70

SUMMER SESSION

Salaries

Original bill	\$9,400 00
Sundry bill	5,000 00

Current Expense

Wages B-1	\$250 00
Office supplies, C-4.....	200 00
Ed. & Rec. supplies, C-8.....	150 00
	<u>\$600 00</u>

\$15,000 00

GRADUATE SCHOOL

Salaries	\$2,500 00
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MILK TESTING

Salaries, A-1	\$720 00
Wages, B-1	400 00

Current Expense

Office Supplies, C-4.....	\$250 00
Transportation, F-6	580 00
Communication, F-7	250 00
	<u>\$1,080 00</u>

\$2,200 00

AGRICULTURAL EXTENSION

Salaries	\$7,000 00
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Current Expense

Office Supplies, C-4.....	\$1,200 00
Gen. Plt. Supplies, C-11.....	2,000 00
Gen. Plt. Equip., E-9.....	2,000 00
Transportation, F-6	2,022 50
Gen. Plt. Service, F-8.....	4,000 00
	<u>\$11,222 50</u>

\$18,222 50

Dean—College of Agriculture, A-1.....

\$5,000 00

POWER HOUSE EQUIPMENT, E-9

Generating Unit	\$11,500 00
Heater	1,000 00
Stoker	5,000 00
	<u></u>

\$17,500 00

WINTER COURSE IN AGRICULTURE, B-1

Wages	3,000 00
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BIOLOGICAL SURVEY

Current Expense

Wages, B-1	\$800 00
Office Sup., C-4.....	812 50
Ed. & Rec. Sup., C-8.....	6 00
Transportation, F-6	222 50
Ed. & Rec. Eq., E-8.....	15 00
	<u></u>

\$1,856 00

HIGHWAY ENGINEERING

Current Expense

Wages	\$400 00
Office Supplies, C-1.....	100 00
Transportation, F-6	375 00
	<u></u>

\$875 00

COAL AND GAS, C-3

Coal	\$23,250 00
Gas	2,035 00

\$25,285 00

WATER

8,160 00

HORTICULTURE AND FORESTRY BUILDING

EQUIPMENT	10,000 00
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BOTANY AND ZOOLOGY BUILDING EQUIPMENT..	10,000 00
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LIBRARY, Special appropriation for books....	16,350 00
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LIBRARY, Binding	2,000 00
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APPARATUS AND EQUIPMENT APPROPRIATIONS

COLLEGE OF ARTS

American History	\$50 00
Bacteriology	100 00
Economics and Sociology.....	125 00
European History	150 00
Geology	400 00
German	25 00
Latin	50 00
Romance Languages	35 00

\$935 00

COLLEGE OF EDUCATION

Art	\$100 00
Manual Training	190 00
Psychology	210 00

\$500 00

COLLEGE OF ENGINEERING..... \$8,000 00

Civil Engineering, Office Eq.....	73 50
Metallurgy, Office Eq.....	100 00
Metallurgy Furnaces, F-10.....	75 00

\$8,248 50

COLLEGE OF AGRICULTURE..... \$8,000 00

Home Econ., Office Equip., C-4.....	67 50
Rural Ec., Office Equip., C-4.....	159 00
Live Stock, E-4.....	3,000 00
Motorless Vehicles, E-5.....	150 00

11,376 50

VETERINARY MEDICINE — ELEVATOR.....

400 00

Veterinary Medicine — Elevator.....	400 00
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TUNNEL TO SOUTH CAMPUS

Original bill	\$7,280 70
Sundry bill	7,653 00

\$14,933 70

LIGHT, HEAT AND POWER

Wood Working Machinery, E-9.....	\$1,480 00
Light Circuit, F-4.....	2,622 00
Plumber's Tools, E-9.....	50 00
Tinner's Tools, E-9.....	50 00
Water Meter, E-9.....	400 00

\$4,602 00

FIRE PROTECTION, F-8.....	4,610 10
HORTICULTURE AND FORESTRY BUILDING (5,000 deferred), F-10	70,000 00
FREIGHT HOUSE AND KILN ROOM, F-10.....	12,200 00
DORMITORY—LAKE LABORATORY, F-10 (2,500 deferred)	
NEW STACKS, LIBRARY, F-10 (7,400 deferred)	3,200 00
OHIO UNION—VAULT, F-10.....	500 00
WATER STALLS—VETERINARY LABORATORY (100 deferred), F-10	
DOG HOUSE—VETERINARY LABORATORY, F-10..	147 00
NEW FLOOR—VETERINARY LABORATORY, F-10..	1,320 00
REAL ESTATE, H	42,000 00
CURRENT EXPENSE	15,000 00
	<hr/> \$438,068 00

The fiscal year for the University closes June 30th, of each year. The State has proposed to change its fiscal year so that June 30th, will be the close and thus bring the State into correspondence with the fiscal year of the Federal Government. This will make a distinct advance in the adjustment of accounts and in keeping record of appropriations.

The Budget system introduced during the current year will be applicable hereafter as the titles in the bill herein represented will reveal.

AGRICULTURAL EXTENSION

The most important piece of constructive legislation during the past year by the Federal Government was the passage of the Agricultural Extension Bill commonly known as the Smith-Lever Act.

Beginning with the Morrill Act in 1862, making provision for the Colleges of Agriculture and Mechanics Arts, there followed the Hatch Act in 1887 making provision for the Experiment Stations, the second Morrill Act of 1890 increasing the appropriations for the colleges, the Adams Act in 1906, increasing the appropriations for the Experiment Stations, and the Nelson Amendment in 1907 increasing the appropriations again for the colleges.

This series of important legislative Acts provided for the maintenance of the colleges and stations. The Extension Bill was intended to provide for co-operative Agricultural Extension work between the States and the United States Department of Agriculture. The Act makes available for the next nine fiscal years an aggregate sum of \$23,120,000 of federal funds to be sent in instruction and practical demonstration in Agriculture and Home Economics.

To obtain this total the states must appropriate for like purpose a sum amounting to \$18,800,000 thus making a grand total of \$41,920,000 to be expended during this period in Extension work. After that period the Federal Government will appropriate \$4,580,000 annually, and the States in order to receive their full quota must appropriate \$4,100,000

annually thus making a total possible annual expenditure for this purpose throughout the country of \$8,680,000.

Each state receives an initial appropriation of \$10,000 and thereafter the funds are to be apportioned to the states in a ratio determined by the proportion of the rural population of each state to the total rural population of the country as determined by the preceding decennial census. No state is under obligation to reach this maximum, but the amount received from the Federal Government in addition to the \$10,000, would be an amount equal to the appropriation made by the State.

The percentage of rural population in Ohio as related to the total rural population as determined by the Census of 1910 is 4.26. Upon this basis the appropriation for the next year would be \$10,000. For the year 1915-16 there would be available from the Federal treasury \$25,557 in addition to the \$10,000.00, provided the legislature made an appropriation of \$25,557. This would make available \$61,114 for Agricultural Extension within the year. For the succeeding year the total would be \$103,710. This increase from year to year would be in accordance with the percentage of the legislative appropriation as indicated above.

The figures above are given for the purpose of calling attention to the fact that this Federal Act makes possible a very generous provision for Extension work. There is some doubt whether the state will be sufficiently well organized to expend economically and efficiently the maximum appropriation. Fortunately Ohio, through the College of Agriculture, has been engaged in Extension work for eight years and is in position to utilize a greater proportion of the available funds than many other states. The fact that the Federal Act provided that this money shall be expended through the Colleges, and the further fact that the legislature in its wisdom at the last Session divided the Extension funds between the College and the Agricultural Commission will make it necessary to reconstruct the legislation for the future or to continue an un-economic and inefficient piece of administration.

The importance of Extension work is generally conceded. The difficult practical problem however, will be to organize it in an effective way and to provide an efficient number of competent people to carry the plan into effect. A conservative attitude on the part of the legislature would seem, therefore, to be highly desirable.

THE GRADUATE SCHOOL.

March 22, 1911, the University Faculty adopted a report for the organization of the graduate work in the University. This report was presented to the Board of Trustees at a meeting held June 12, 1911, and adopted. This report contained the following recommendations:

1. That there be organized at this University the Graduate School of the Ohio State University.
2. That all legislation regarding the affairs of the Graduate School be sub-

ject to the approval of the University Faculty. This shall not be so interpreted as to prevent direct legislation regarding the Graduate School by the University Faculty.

3. That the administration of the Graduate School be vested in a council, (to be known as the Graduate Council) consisting of a Dean and twelve other members, so selected as to properly represent the various lines of graduate work.

4. That the Dean of the Graduate School shall have all the powers, duties and privileges that pertain to the office of Dean in the several colleges.

5. That the Dean be elected by the Board of Trustees upon the recommendation of the President of the University; and that the twelve other members of the Graduate Council be appointed by the President of the University for a term of three years, except that, of the original appointees, four shall be appointed for a term of one year, and four for a term of two years.

6. That the existing regulations concerning graduate work in the several colleges of the University remain in force until such time as changes may be proposed by the Graduate Council, and be approved by the University Faculty.

That while the Committee does not regard it as a part of its duty to outline the policy to be pursued by the Graduate Council when formed, it is the opinion of the Committee that all graduate courses offered should be introduced as at present in the Faculty of the appropriate college and, if passed, be referred to the Graduate Council for recommendation to the University Faculty and that all such courses when adopted should be printed as at present in the catalogue of the appropriate college as well as in the bulletin of the Graduate School.

Pursuant to this action the Board of Trustees at a meeting held June 28, 1911 appointed Professor William McPherson, Ph. D., Dean of the Graduate School. The Graduate Council of twelve was then appointed and the policies for graduate work steadily developed. The first appropriation for graduate work was made by the legislature in 1913 and became available for the current year. This money as recorded in Dean McPherson's report was used in providing fellowships and scholarships.

The Graduate School in its brief experience has already proved a stimulus to the Faculty. It provides the incentive to scholarship that opportunity for development does to a man in business. In a sense it may be agreed that a graduate school is for the salvation and development of a faculty since it provides against the tendency to monotony and deathly routine in teaching. The inspiring teacher needs the wider horizon that comes with his own participation in the activities of advanced and research scholarship.

Moreover the presence of the graduate school has developed the graduate attitude of mind in a portion of the student body and opened the way to the development of a body of young scholars who represent some of the best phases of university life. The contribution to university efficiency and to the general attitude toward scholarship would be in itself a sufficient justification for the generous maintenance of a graduate school.

REPORTS TO THE PRESIDENT

I submit herewith as part of this report, the reports as presented by: (1) The Graduate School; (2) The College of Arts, Philosophy and Science; (3) The College of Agriculture; (4) The College of Education; (5) The College of Law; (6) The College of Pharmacy; (7) The College of Veterinary Medicine; (8) Dean of Women; (9) Agricultural Extension; (10) Department of Physical Education.

The reports from the department of Physical Education for both men and women are given in extended form in order that the statistics of service may be used for completion by those interested in Physical Education.

CONCLUSION

The usual statistical tables as required by law are submitted herewith as a part of this report in the form of numbered appendixes. These tables will reveal the lines of progress and the development from year to year.

In closing the report it is a pleasure to record a year of good will and cooperative work on the part of the Trustees, Faculty and students in the administration of the University. Special mention is due to the men immediately in charge of the physical plant for conscientious and intelligent service rendered with commendable appreciation of the needs of the Faculty and students. The year has been free from exceptional causes of discouragement and has been marked by genuine progress.

W. O. THOMPSON,
President.

REPORT OF THE DEAN OF THE GRADUATE SCHOOL

DR. W. O. THOMPSON, *President, The Ohio State University.*

DEAR SIR:—I have the honor to submit the following report relative to the work of the Graduate School for the Academic year ending June 1914.

REGISTRATION DURING THE SESSION 1913-1914

The registration for the academic year 1913-1914, including the summer session of 1913 amounted to 211. Of this number 60 attended the summer session only. With few exceptions this number includes only those who held baccalaureate degrees from accepted colleges and universities and who pursued at least one graduate course. In a few cases graduates of colleges not rated as meeting the standard requirements were admitted to the Graduate School but only when such graduates had a number of years of professional work to their credit since their graduation, and had shown a high standard of excellence in this work.

The distribution of the students registered in the Graduate School according to the departments in which they have taken their major and minor work is as follows:

<i>Depts. of Instruction.</i>	<i>Major</i>	<i>Minor</i>	<i>Depts. of Instruction.</i>	<i>Major</i>	<i>Minor</i>
Agricultural Chemistry..	12	10	Greek	0	2
Agronomy	6	1	Hist. & Phil. of Educa...	7	6
American History.....	8	9	Home Economics.....	0	1
Bacteriology	5	16	Latin	7	7
Botany	10	12	Mathematics	5	14
Chemistry	38	13	Mechanics	0	1
Civil Engineer.....	1	..	Metallurgy	0	4
Dairying	1	..	Philosophy	6	7
Economics & Sociology..	6	7	Physics	8	10
English	31	19	Political Science	1	4
European History.....	5	6	Psychology	7	6
Geology	3	5	Romance Language.....	5	10
German	14	6	School Adm.	6	19
Horticulture	1	1	Zoology & Ento.....	17	11

It is only fair to state that the relatively large enrollment in the departments of Chemistry and English is partially due to the fact that these departments have a number of graduate assistants in their instructional force.

In the following table is given the distribution of the graduate students, according to the colleges and universities from which they received their baccalaureate degrees:

American University.....	1	Catholic Univ. of America.....	1
Antioch College.....	3	Clemson College.....	1
Baldwin University.....	2	Colgate University.....	1
Buchtel College.....	2	Colorado Agricultural Col.....	1

Columbia University.....	1	Ohio University.....	7
Capital University.....	3	Otterbein University.....	3
Cornell University.....	1	Oklahoma Agr. & Mech. Col.....	1
Denison University.....	4	Oxford College for Women.....	1
Dartmouth College.....	1	Ohio Northern University.....	2
Defiance College.....	1	Ohio State University.....	117
Depauw University.....	1	Purdue University.....	1
Earlham College.....	1	Pennsylvania Col. for Women.....	1
Franklin College.....	1	Smith College.....	2
Grove City College.....	1	State Univ. of Iowa.....	2
Heidelberg University.....	3	Thiel College.....	1
Hiram College.....	1	Univ. of Cincinnati.....	5
Hope College.....	1	University of Indiana.....	1
Iowa Wesleyan College.....	1	University of Michigan.....	1
Kansas State Agr. College.....	1	University of Illinois.....	1
Lake Erie College.....	1	University of Cape of Good Hope	1
Lima College.....	1	Vassar College.....	2
Lawrence College.....	1	Washington University.....	1
Manchester College.....	2	Wabash College.....	2
Muskingum College.....	1	Wittenberg College.....	3
Miami University.....	6	Wooster University.....	5
Mount Union Scio College.....	1	Williams College.....	1
Oberlin College.....	3	Wilmington College.....	1
Ohio Wesleyan University.....	14		

THE SUMMER SESSION

In my last report I called attention to the great desirability of extending the list of graduate courses offered in the summer session. Our experience during the last summer session serves to deepen my convictions in this regard. Repeatedly teachers holding baccalaureate degrees from acceptable colleges and universities come to our summer sessions to pursue graduate work, only to find that they cannot secure the advanced work necessary for the degree sought. It would seem to be a poor policy from every standpoint for the only university in the State that makes a claim to giving graduate work in the summer session to be devoting so much of its energy to courses that are acceptably given in a number of colleges of the State and in some cases even in our high schools. Such a policy is forcing teachers who desire advanced lines of work in certain subjects, to go to other States for their graduate work, and many of them are doing this at heavy expense and against their own wishes.

REGULATIONS UNDER WHICH MEMBERS OF THE INSTRUCTIONAL FORCE OF THE UNIVERSITY MAY PURSUE GRADUATE WORK

During the year the Graduate Council discussed very fully the question as to the propriety of allowing members of the instructional force of the University to register in the Graduate School and to pursue work for an advanced degree. A committee consisting of Professors Knight, Bowen and Osborn was appointed to outline a policy and to present the

same to the Graduate Council. An agreement was finally reached which the Council believes will do justice to all and yet will safeguard the standing of the Graduate School. This agreement is as follows:

"Members of the instructional force of the University who are not above the rank of assistant professor and who are teaching full time may be admitted to graduate work provided (1) that the supervision of the subjects constituting their proposed courses is adequately provided for among other instructors of proper rank. (2) that the Graduate Council shall be assured that any such candidate has sufficient free time (at least equivalent to the carrying of three hours per semester) to enable him to make reasonable progress in his work. (3) that his major work shall be essentially research or seminar in character or shall be devoted to courses open to graduates only, and (4) that his admission and course of study shall be considered individually by the Council and receive the approval of a majority of the entire body".

The following resolution was also adopted:

"In case of graduates of this University who while members of the instructional force teaching full time become candidates for the doctors degree, at least one third of the graduate courses shall be taken in another institution offering equal opportunities".

It may be added that this action was taken because the Graduate Council felt that it was unwise for a student who is a candidate for a doctor's degree to have his collegiate experiences limited to a single institution.

RESEARCH WORK

Attention has been called in previous reports to the intimate relation existing between research work and a graduate school. The recognition of the importance of this subject led to the appointment of a special committee with instructions to consider the general question as to what could be done to further productive scholarship in the University. This committee consisting of Professors Leighton, M. B. Evans and Prosser, made a thorough study of the subject, cooperating to some extent with a similar committee appointed by the Society of Sigma XI. The recommendations made by this committee and adopted by the Graduate Council are of sufficient importance to warrant including them in this report:

(1) That it be the general policy of the university not to appoint to the rank of assistant professor or to a higher rank any person who has not already given clear evidence of power to do productive work.

(2) That in all promotions and increases of salary equal weight shall be attached to scholarly productiveness and teaching ability and that where evidence has been given of extraordinary scholarly productiveness this quality shall carry most weight. It should be the aim of every university to have a group of notable creative scholars.

(3) That normally no person shall be advanced to the rank of full professor who has not given evidence of continued activity in scholarly research since his original appointment. This condition is not intended to preclude increase of

salary when members of the instructing staff who are not productive scholars have shown extraordinary ability as teachers.

(4) That as soon as possible the expected number of hours teaching be reduced for those giving graduate instruction, and, indeed for all persons qualified for and engaged in productive work. The normal maximum number of calendar hours should be from eight to ten according to the subjects and methods of instruction, for those giving graduate instruction. This university should at once in the work of its instructing staff come down to the time standards in force in the leading state universities. In this regard our faculty should not be handicapped in comparison with the faculties of the universities of Wisconsin, Illinois and Michigan. We believe that those professors who give graduate work should have a maximum above which no productive scholar should under any circumstance go, but that there should be no minimum. If a man is of sufficiently high character and attainments to be made a professor it should be left to his own discretion to determine how many hours it is expedient for him to teach.

(5) That those members of the permanent instructing staff who are engaged in serious and prolonged efforts in the line of productive scholarship shall upon request, to be preferred through the Dean of the Graduate School, be relieved from a part of their routine duties.

(6) That a regular scale of minima and maxima in salaries for the various grades of teachers be adopted, together with a regular scale of increases to the maxima for length of service. This policy should not be regarded as fixing an upper limit for the salaries of distinguished scholars with the rank of full professors.

FELLOWSHIPS

The Graduate Council from its first organization has recognized the importance of a system of scholarships and fellowships as a necessary requisite in the establishment of a Graduate School. The sum of \$2,500.00 given to the Graduate School by the Legislature during the session of 1913, was used in the establishment of two fellowships of the annual value of \$500.00 each and six scholarships of the annual value of \$250.00 with the remission of all regular fixed university fees. Moreover, it was voted that fellows and scholars shall not be called upon for service to the university as assistants or instructors but in return for their compensation shall carry on such research work as may be assigned them by their advisors. The changing of the title of the previously existing fellowship to "Graduate Assistantships" is entirely logical and properly defines the character of these positions.

In this connection it is of interest to note the number of Graduate Scholarships and Fellowships offered by a few of the leading Universities:

Harvard: 39 fellowships ranging from \$400.00 to \$1,150.00; 91 scholarships ranging from \$150.00 to \$500.00. Total value of fellowships and scholarships \$43,825.00.

University of Chicago: 70 fellowships and scholarships ranging from \$120.00 to \$520.00.

University of Illinois: 82 fellowships and scholarships of the total value of \$25,500.00.

University of Wisconsin: 65 fellowships and scholarships ranging from remission of fees to \$400.00.

Cornell University: 50 fellowships and scholarships ranging from \$300.00 to \$500.00.

University of Pennsylvania: 40 fellowships and scholarships ranging from \$100.00 to \$800.00.

With these facts at hand it is evident that our own university must establish a system of fellowships and scholarships commensurate with those of other universities; otherwise we must be content with the more mediocre students as the best students will seek and will obtain fellowships in other universities.

OHIO STUDENTS IN THE GRADUATE SCHOOLS OF OTHER STATES

The lack of a highly developed Graduate School in Ohio has naturally led many of the students from our own state to pursue their advanced work in the graduate schools of other states; thus the catalog of the University of Chicago alone shows a registration in the Graduate School of 166 students from Ohio. Harvard has 32; Cornell University has 50; Wisconsin has 40 and Illinois has 15. It is safe to say that at least 400 men and women from Ohio are now registered in the graduate schools of other states.

It would seem to be the duty of the State of Ohio to provide the necessary facilities for the education of its own citizens and I have faith that the legislature, knowing the facts, will make such provisions.

THE ATTITUDE OF THE COLLEGES OF THE STATES TOWARDS THE GRADUATE SCHOOL

I do not believe that there is any question connected with the advancement of higher education in the state that would meet with more unanimity of approval than that our own university should build up a Graduate School commensurate with the dignity of the State. The Presidents of both the Ohio University and Miami University have offered of their own free will to lend their aid in securing from the Legislature whatever appropriation the Ohio State University deems necessary for the advancement of its graduate work.

It is earnestly hoped that the appropriation of \$2,500.00 made by the last Legislature is but the beginning of a liberal policy.

THE FINANCIAL NEEDS OF THE GRADUATE SCHOOL.

The University should have a special annual appropriation of not less than \$25,000.00 for the development of its Graduate work. Some of the ways in which such an appropriation can be wisely utilized are as follows:

1. It would enable the establishment of scholarships and fellowships. These should be open primarily to the graduates of Ohio colleges.
2. It would make it possible to invite members of the faculties of other Ohio colleges, who are eminent in their line of work, to deliver special courses

of lectures to graduate students. In this way it would be possible to utilize the best talent of the state in the development of the school.

3. It would enable the University to obtain the necessary apparatus for carrying on special lines of investigation.

4. Perhaps most important of all it would make it possible to relieve members of the faculties of the university, who are especially skilled in investigation, from a portion of their routine duties so that their energies could be concentrated in the line of work for which they are best fitted.

In conclusion Mr. President, I wish to thank you for the interest you have taken in the graduate work of the University and for your appreciation of the efforts of the Graduate Council in making the work of the Graduate School more effective.

Respectfully submitted,

WM. MCPHERSON.

REPORT OF THE DEAN OF THE COLLEGE OF AGRICULTURE

COLUMBUS, August 1, 1914.

President W. O. THOMPSON, Ohio State University.

MY DEAR SIR:—I have the honor to submit the following report for the College of Agriculture for the year ending June 30, 1914.

During the year many things have occurred of importance to the College of Agriculture. On August 6, 1913, the State Agricultural Commission was organized by legislative act, to take charge of the agricultural agencies of the State, including the Ohio Agricultural Experiment Station, the State Department of Agriculture, the State Department of Dairy and Food, and the State Fish and Game Commission. The Dean of the College of Agriculture was made a member of the Commission, and through the Agricultural Commission the work of the College of Agriculture has been brought into closer relation with all other agricultural agencies of the State.

The opening of the school year showed an increase in the enrollment of the College of Agriculture of 214, which was an increase of 21.2 per cent over the enrollment the previous year. The increase was so great that an appeal was made to the State Emergency Board for relief, and \$7,472.00 were granted to the College to provide for additional instructors and new equipment. On account of the large enrollment it was found to be impossible to provide for the Winter Course students on the University Campus, and through the Agricultural Commission arrangements were made to open up the Fair Ground buildings for their use. Four buildings were fitted up and provided very satisfactory quarters for the Winter Courses in Agriculture, Dairying, and Poultry.

An important change in the curricula of the College has been made during the year, in abolishing the two-year courses in Agriculture and Horticulture and establishing in their stead three-year short courses in the same subjects, to be put into effect October 1914. The content of the courses has not been materially changed but the length of the school year has been shortened from nine months to five months. The courses open the middle of October and close the middle of March, allowing the farm boys to remain on their home farms during the entire growing season.

A change has been made in the system of free scholarships in the College of Agriculture that will have a far reaching effect. The Board of Trustees has abolished the scholarships that were awarded by the County Agricultural Societies, two of which were assigned to each county, and have established in their stead scholarships good only in the three-year short courses and good for the entire course, assigning three to each county, to be awarded under rules and regulations of the State Agricultural Commission; and scholarships in the four-year courses good

for the entire course, assigning twenty to each of the four districts into which the State is divided for Supervision of Instruction in Agriculture in the public schools, to be awarded under rules and regulations of the State Superintendent of Public Instruction.

The most important event in the year for the College has been the formal adoption of combination courses of study between the College of Agriculture and other Colleges of the State, which provide for students spending three years in their home institution and two years in the Agricultural College and at the end of the fourth year taking the degree from the home institution and at the end of the fifth year from the College of Agriculture.

During the year the following colleges have completed such arrangements:

University of Akron,
Capital University,
Baldwin-Wallace College,
Antioch College,
Wilmington College,
Cedarville College,
Ashland College.

In a material way — the College had added during the year a farm of 132 acres which was purchased at a cost of \$53,000.00. This land makes a valuable addition to the College and furnishes opportunity for carrying on experimental work in the near future in coöperation with the State Agricultural Experiment Station.

Two new buildings are under construction, one for Horticulture and Forestry, which is being built at a cost of \$150,000 and one for Zoology and Entomology and Botany, which is being built at a cost of \$125,000. Both buildings will be ready for use early in the school year.

This year has witnessed the third great measure for agriculture enacted into law by Congress, namely: provision for extension work by the College of Agriculture. In some respects this is the most generous provision the Federal government has ever made for agricultural education. It will make possible a comprehensive and a permanent system of agricultural extension directed by the College of Agriculture, that will reach to every nook and corner of the State. To meet the need of a greatly enlarged extension service it has been necessary to reorganize the Extension Department. Professor A. B. Graham, who has served most efficiently as Superintendent of Agricultural Extension for the past nine years, has resigned to accept a similar position with the New York State School of Agriculture on Long Island. The Extension Service will be divided into departments similar to the departments within the College. These departments will be in charge of men of

collegiate training and academic rank, who will be members of the University Faculty.

The College of Agriculture in common with other colleges of agriculture has grown in enrollment during the past few years at an astonishing rate, as shown by the following statement of the enrollment from 1909-1914.

ENROLLMENT IN THE COLLEGE OF AGRICULTURE
(EXCLUSIVE OF WINTER COURSES)

	1909	1910	1911	1912	1913
	475	665	919	1,046	1,234
	WINTER COURSES				
	256	159	212	273	205
Total	731	824	1,131	1,319	1,439

Owing to the overcrowded condition in the College, many of the departments have worked under great handicaps. The following excerpts from the reports of some of the departments give an idea of the conditions existing in the respective departments.

AGRICULTURAL CHEMISTRY

Professor Vivian reports as follows: "I beg to submit the following report of the Department of Agricultural Chemistry for the year 1913-1914.

Number of four-year students in both semesters.....	623
Special six weeks lectures to class in feeding.....	66
Two-year students	80
Winter Course	180
Summer term 1913.....	30

979

The number of instructors has been entirely inadequate for the number of students, so while everyone in the department has worked for long hours we have the feeling that from the standpoint of both students and instructors the year has been an unsatisfactory one.

The class in Course 103-4 was so large (205) that no room in this building would accommodate them so the recitations were held in the auditorium of the Veterinary Clinic Building. This arrangement was very unsatisfactory on account of the impossibility of transporting all the illustrative material desired.

Our laboratory facilities are almost taxed to the limit and if the classes increase very much in size some provision will have to be made for more laboratory space. As it is we will have no place for laboratory work for the students in the new Short Course, although it is extremely desirable to have them do laboratory work."

DAIRYING

Professor Erf reports as follows: "The work of the Dairy Department may be classified under the following heads: Instructional Work, Commercial Work, Advanced Registry Work, Correspondence and Improvement Association Work, Extension Work, Correspondence and Office Work, Exhibits and Experimental Work.

Instructional Work. The Department has given instruction to 624 students, which were divided into the following classes:

	<i>Students</i>
Farm Dairying (102).....	76
Principles of Dairying (101).....	127
City Milk Supply (103 and 104).....	52
Buttermaking (105 and 106).....	51
Cheesemaking (107 and 108).....	18
Elementary Dairying (109).....	67
Milk Condensing and Ice Cream Making (110).....	13
Dairy Mechanics (111).....	14
Advanced Dairying (117 and 118).....	3
Advanced Dairying (113 and 114).....	32
Advanced Registry Students.....	84
Winter Course	120
Dairy Short Courses.....	23
Total	680

This makes an increase over last year of 226 students. In addition to the head of the Department, three regular instructors have been employed and four student assistants a part of the time. Attention should be called to the fact that while there has been an increase of nearly fifty per cent in the number of students, the number on the instructional force has remained the same. We believe the instruction given has been as good as possible under the conditions. More satisfactory results could have been obtained with more room and better equipment. The use of the Fair Grounds for the Winter Course men relieved the situation considerably, but on account of the increase in the number of regular students, the Department has been handicapped greatly by lack of sufficient room. For the coming year we would urge that additional room, a larger instructional force, and more equipment for the laboratories be provided.

Commercial Work. To June 1, 1914, for eleven months the sales were as follows:

Butter —

Laboratory Sales.....	13,856 lbs.	\$4,849 66
Wagon Sales.....	11,026 lbs.	4,001 56
Total Sales.....	24,882 lbs.	\$8,851 22

Milk—

Laboratory Sales.....	2,669.5 qts.	\$ 268 95	
Wagon Sales.....	47,817 qts. 41,912 pts.....	6,887 80	
Total Sales.....	50,486.5 qts. 41,912 pts.....		\$7,144 25

Cream—

Laboratory Sales.....	499 half pints.....	\$ 49 95	
Wagon Sales.....	8,818 half pints.....	881 80	
Total Sales.....	9,317 half pints.....		\$ 931 75

XX Cream—

Laboratory Sales.....	99 half pints	\$ 14 85	
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Buttermilk—

Laboratory Sales.....	7,735 qts.	\$ 386 77	
Wagon Sales.....	817 qts.	40 85	
Total Sales.....	8,552 qts.		\$ 427 62

Skim Milk—

Laboratory Sales.....	926 gal.	\$ 92 62	
Wagon Sales.....	29 gal.	2 95	
Total Sales.....	955 gal.		\$ 95 57

Cheese—

Laboratory Sales.....	6,654 glasses	\$ 665 44	
Wagon Sales.....	88 glasses	8 80	
Total Sales.....	6,742 glasses		\$ 674 24

Fermented Milk—

Laboratory Sales.....	2,936 half pints	\$ 146 80	
Wagon Sales.....	1,212 half pints	60 60	
Total Sales.....	4,148 half pints		\$ 207 40

Ice Cream—

Laboratory Sales.....	20 gallons	\$ 19 40	\$ 19 40
Grand Total.....			\$18,366 30

Following is given the amount of supplies and the sources from which they are obtained:

	Lbs. Butter Fat	Lbs. Milk.
F. R. Bookwalter	1,155.08	
J. W. Call	677.64	
S. P. Davis	1,119.08	
S. N. Dixon	1,915.81	
W. H. Fisher	478.45	
Miss Mary Hess	1,233.58	
E. E. Kiger	1,106.72	
J. W. Kiger	461.32	
Luther Mitchell	1,183.55	
Pickerington Creamery Co.	446.52	
A. W. Steckel	1,460.32	

	<i>Lbs.</i>	<i>Lbs. Milk.</i>
Ed. Thomas	5,924.83	
Westerville Creamery	30.42	
T. P. White	549.11	
F. M. Wilson	2,853.52	
	<hr/>	
	20,595.95	
Bert Smith		128,435
H. H. Hamilton		51,174
Ohio State University.....		106,286
Westerville Creamery		3,451
		<hr/>
		289,346

The amount appropriated for the year for labor and supplies was \$19,500. By the end of the year approximately \$21,000 will have been turned over by the Department, giving us a credit balance of \$1,500.

Advanced Registry Work. The work of testing cows for the Advanced Registries and the Registry of Merit has increased at an enormous rate. Six years ago there were only five cows tested by the Department. During the past year, from May 1, 1913 to May 1, 1914, there were 1,313 cows tested. Of these, 844 were Holsteins, 255 Guernseys, 103 Jerseys, 94 Ayrshires and 17 Brown Swiss. In the year 1914, we will test close to 1,700 cows. The Department during the past year has employed 71 supervisors, averaging 313 days' work each. About sixty per cent of the testing was done in the northeastern part of the State, twenty-five per cent in the northwestern part of the State, five per cent in the central, five per cent in the southwestern and five per cent in the southeastern.

The owner of the cows pays the supervisor's expenses and two dollars per day. The balance of the cost of the work—the copying of the records, telegraph and telephone messages, correspondence, directing the supervisors and checking the composites, is borne by the University, \$2,500 being appropriated for this work. Advanced Registry work is doing more to develop the dairy industry in the State than any other line of work that is being carried on.

Co-operative Cow Improvement Association Work. During the past few years five Co-operative Cow Testing Associations have been organized by the Department. Two have completed their year's work and three are in successful operation at the present time. Very little work along this line has been done on account of the lack of funds. The chief difficulty in organizing an association of this kind lies in the fact that we have no men of experience to stay with the association until it is started. We would suggest that men be provided to organize these associations and stay with them for about four months, training the man who is to test for the association and giving the members a

knowledge of its operations. Then he should occasionally visit each association that he has organized, spending a few days in looking over the work and seeing that everything is going as it should. At this time he would be able to make suggestions for improving the dairy and increasing the capacity of the individual cow. For raising the average production of grade cows, making the business more profitable to the farmer and reducing the cost of the product to the consumer, there is no better method than by the Co-operative Cow Improvement Association."

FORESTRY

Professor Lazenby reports as follows: "There have been no essential changes in the course during the past year.

It is our aim to follow closely as our conditions will permit, the "Conference of Forest Schools." This Conference has agreed that the requirements for training in professional forestry should be equal to those for the other learned professions, such as civil engineering, mechanical engineering, law, medicine, etc. It emphasizes the need of a thorough foundation in subjects of a general educational character and advocates a collegiate training in history, economics, English, and foreign languages, as well as in chemistry, botany, geology, and other auxiliary scientific subjects.

It has further agreed that the course should comprise at least four years of undergraduate work for the degree of Bachelor of Forestry.

In the case of Graduate Schools, there should be at least one year of post-graduate work in technical forestry, making a five-year course altogether; and no degree of Master of Forestry should be granted to any student who has not had at least two years work in technical forestry either in the graduate course or in the graduate and undergraduate courses combined.

Forestry education in this country is scarcely fifteen years old and yet there are twenty-two institutions that meet the requirements of the "Conference of Forest Schools." Of this number, however, only eight offer work beyond the requirements of the undergraduate course.

We are not of this latter number, but when the new building is completed and our well equipped laboratories available, we should not hesitate to take this advance step. While a "short course" in Forestry does not appear desirable, a "Ranger School" to correspond in some respect with the short (3 year) course in Agriculture should be considered. The main purpose of the Ranger School should be to train men in practical forestry for such positions as forest guards and rangers, and to be able to supervise labor in reforestation, lumbering, etc.

In European countries where forestry is well developed, ranger schools have become an established part of the general system of forestry education, and the courses of study and practice are as definitely organized as in the regular school of forestry.

The ranger school should bear the same relation to professional training in forestry as the business college bears to university instruction in economics and commerce. Its aim is to teach the art or trade of forestry practice, rather than the science of forestry.

The means of outdoor illustration should be extended. For seed-beds and seedling transplants we should have two acres of ground just west of the new building. This is an imperative need. For plantations of young trees, assignment of land along the river or at some other point on the university estate can be made from time to time. Then nursery ground should be assigned at as early a date as possible, for nursery work should be begun in a permanent place at the very opening of the next college year.

The plantation already established just west of the University woodlot serves an extremely useful purpose and should be maintained.

Owing to the urgent demand for land by other departments, no extensions of these plantations will be made.

The woodlot has been seriously injured as a means of illustration, and its very continuance menaced by the campus committee or some other authority.

It seems almost criminal that this University woodlot which is one of the most attractive features of the University estate, and a fair sample of the average or better woodlots found on farms all over Ohio, should be so abused. The Forestry Department will assume no responsibility as to the condition of the woodlot, unless it is given such control as will prevent the reckless mutilation and, from a forester's point of view, certain destruction of what should be regarded as of priceless value.

In closing I wish to suggest that the new building be called "Warder Hall." By so doing we will honor the "Father of American Forestry," who was a great horticulturist as well, also an Ohio man.

If the name "Warder Hall" can be cut in the stone over the central arch of the entrance, "Forestry" be cut in the stone over the north arch, and "Horticulture," similarly over the south arch, both the name and designation of the building would be clearly shown. I sincerely hope this may be done."

HOME ECONOMICS

Professor Edna White reports as follows: "There has been some attempt to supervise Extension work in the field, though it has been impossible to do this very efficiently, although close connection has been maintained between the department and the field workers, and a successful home-maker's school was held at the University during February.

The pressure of outside demands upon the department is becoming more and more insistent. These demands seem to be largely a result of the statewide recognition of the value of trained workers wherever the problems of living conditions are encountered and are for this reason

entirely legitimate. A beginning along these practical lines is being made through the dietetics, seminar and teacher's courses."

ZOOLOGY AND ENTOMOLOGY

Professor Osborn reports as follows: "The work of the Biological Survey has been advanced with the funds made available by the legislature and several studies are under way in different parts of the State. Particular problems are being studied by Professor Walton, Kenyon College; Dr. Breitenbecher, Western Reserve University; Professor Fink, Miami University; Professor Fullmer, Baldwin-Wallace; Professor Grover, Oberlin College, and some other studies are in progress by members of the departments here. These will result in papers which should be ready for publication within the next year or two and which will be important contributions to the Biology of the State. One bulletin issued last fall upon the "Syrphidae of Ohio" has been very favorably received and two bulletins now in press—one a catalog of the State Flora and the other a Botanical Study of the Sugar Grove Region, will, I believe, fill an important place in the publications relating to the botany of the State. While this project may be considered as in its initial stage, I believe that such progress has been made as to fully justify our expectations concerning the services that may be rendered to the State by members of the different faculties of the various colleges.

Under the Agricultural Commission there has been a plan developed for the coordination of the Entomological activities in the State which should be of distinct advantage in securing the most efficient work in these lines. The most important feature, perhaps, of this agreement is the establishment of a basis upon which to distribute and correlate the work in the different departments concerned with Entomological investigation, instruction and practice, and in a provision by which the members of the different staffs will meet annually for the purpose of discussing the entomological needs and projects to be carried forward in the State.

The department has cooperated, as heretofore, in work at the Lake Laboratory, where a number of instructors from other institutions have been present and prospects for further work in this connection are distinctly promising.

The department has also had a profitable relationship with the Board of Health, and the opportunity for cooperation with that division in certain investigations seems likely to be of distinct mutual benefit."

Respectfully submitted,

H. C. PRICE, *Dean.*

REPORT OF THE DEAN OF THE COLLEGE OF ARTS, PHILOSOPHY, AND SCIENCE

COLUMBUS, July 1, 1914.

DR. W. O. THOMPSON, *President The Ohio State University*,

DEAR SIR:— I have the honor to submit my report as Dean of the College of Arts, Philosophy, and Science, for the year ending June 30, 1914.

ENROLLMENT

The College enrolled 952 students of whom 410 were women. The gain over the previous year was 98, a very satisfactory increase. Not included in these figures were 231 students registered in the summer session of 1913 as members of this college.

LEAVES OF ABSENCE

There were absent on leave Professor James E. Hagerty of the Department of Economics and Sociology, Professor George H. McKnight of the Department of English, and Professor S. C. Derby of the Department of Latin. Professor F. A. McKenzie of the Department of Economics and Sociology was granted leave of absence from April 1, 1914, on account of illness.

EMERGENCY APPOINTMENTS

Unforeseen increases in enrollment in certain departments made additional assistance imperative at the beginning of the Fall semester. Two student assistants were thus provided for American History; J. Forest Craig was appointed instructor in English; Wilmer C. Harris instructor in European History; Theodore F. Kotz, instructor in Geology; and A. P. Moore instructor in Romance Languages.

The death of Professor Josiah Renick Smith, February 15, 1914, created an acute emergency in the Department of Greek Language and Literature over which Professor Smith had presided with distinction for more than twenty years. To meet this emergency, Professor R. V. Schmitt of Capital University was appointed Acting Professor, and Mrs. Martha Guerin Elden, Acting Instructor for the remainder of the year. Both have rendered excellent service during the critical period in the history of the department. The appointment of Professor George Melville Bolling, Ph. D. (Johns Hopkins) to the chair made vacant by the death of Professor Smith is assurance that the fine traditions of the department will be preserved.

NEW ADMISSION REQUIREMENTS

One of the new laws passed by the last legislature compels the College of Arts, Philosophy, and Science to receive unconditionally into

its Freshman class the graduates of those Ohio high schools that are classified as first-grade. In anticipation of this law (which does not go into effect until 1915) we have revised the requirements both for admission and for graduation. The law undoubtedly means that we must accredit any fifteen units on which a first-grade high school is willing to grant a diploma of graduation. Some have feared that this would result in lower standards. The fear is groundless. For in the first place the board which assists the state superintendent in inspecting and classifying high schools includes two representatives of this university, and these are the very same officials who have heretofore been our own high school visitors. In the second place the board as a whole is made up of school and university officials who must be credited with as high a devotion to good standards as has obtained hitherto. In the third place the revision of our requirements for a degree makes it certain that by the beginning of the junior year in college every candidate will have studied as much language, science, mathematics, history, English, and other branches, as he has hitherto been required to study. In this respect the law compels no change. The total specific requirements for a degree (high school and college together) will remain as they have been regardless of action by the new board. If the student from a first-grade high school brings less foreign language than hitherto, he will study foreign language correspondingly longer in college, and with credit towards his degree. Such a student will inevitably bring more science or more history or more of some other subject as an offset, thereby releasing an equivalent amount of his college time for the studies that we compel him to continue.

It is conceivable that a graduate of a commercial or other highly specialized school might come with a preparation so narrow and one-sided as to render it impossible for him to fulfil the requirements for a degree in the usual four years; but it is doubtful if any board of inspectors would continue to rate as first-grade a school that permitted graduation on so narrow a foundation. It is also conceivable that a graduate of the ordinary high school might present a preparation so miscellaneous and scattered as to render necessary a five-year residence in college before the degree could be conferred. Such cases however if numerous would naturally lead any board to prescribe definitely for high schools of the first grade a program of major and minor studies that would ensure for each graduate a consistent course upon which higher studies might proceed without loss of time, — such a course for instance as is now the basis for admission to the University of Chicago. In any event instances like these will be highly exceptional, as an examination of numerous programs of commercial, manual training and other high schools shows. Graduates of these will usually present two instead of four units of foreign language and will be obliged to study foreign language in college a correspondingly longer time.

The new law should bring several beneficial results. First, it recognizes the organic relation between high school and college and compels the college to consider the educational program of each student individually as a unit of eight years, the last four of which are to be modified partly in view of the content of the first four. Secondly, it puts a stop to the imposition of trivial and merely technical entrance conditions upon graduates of first-grade high schools. It rightfully presumes fitness for college in such graduates. Thirdly it permits the local high school to serve its constituency freely without dictation from the colleges. Fourth, it permits the far-seeing student or his parents to plan more extensively than hitherto for his total education; for instance to put into his high school course the maximum training in the languages; and to admit no half-unit subjects whatever to his high school program, even though these should be allowed for high school graduation. I consider this the wisest piece of school legislation that was enacted by the last legislature. It is the full recognition of a state system of schools.

HIGH SCHOOL AND COLLEGE

The new law as to admission does not increase appreciably the amount of elementary work that the university must undertake. In our own university the total increase is represented by two classes in Latin. It is doubtful if even these will be necessary; for ninety per cent of our students offer at least two units of Latin for admission. In fact Latin is still the language study of the high schools of Ohio and bids fair to continue so. Apart from this consideration, there is no good reason why Latin should not be offered in a great university as a beginning study for those who want it, just as Greek, French, German, Spanish, and Italian are already offered and have long been offered. Gradually as an inevitable effect of the introduction of the elective principle into the secondary schools, the universities have been compelled to increase the number of studies which may be pursued either in the later high school years or in the early college years. The number of such studies is perhaps only one or two for any one student, but the total duplication of effort involved is very large and also expensive. Every science may now be begun in college or in high school, indifferently. The same is now true of every language. It is true to a less degree of all the other subjects, including mathematics, history, drawing, shop work, manual training, and domestic science. There is now complete correlation here of high school and college work in the sciences and languages; in the other subjects named correlation has not gone very far as yet. But correlation will not lessen duplication of effort on behalf of students who having omitted a subject in high school desire to begin it in college. Such duplication is inevitable. The theory that on entering college, the student should find open to him only those studies which he has already begun will never be accepted; nor will there ever be a complete division

of the educational province between the secondary and higher institutions. The tendency is in the opposite direction. It is in the direction of extending the secondary school upward. At present a graduate of our large city high schools (if allowed to remain a year longer) would find at least one full year of work available in languages and sciences and other subjects that he had not studied, which would count towards his degree in college; and it is surprising that more students do not choose this method of fulfilling at home the requirements at least of the Freshman college year. Such a privilege is now allowed in twenty-two or more high schools in this country and it could be offered in a few Ohio cities at a trifling increase of expense. It is probably by this method that relief will come in time from over-crowded Freshman sections. The increase in junior high schools in this country, in which certain high school subjects like Latin and Algebra are begun (on a departmental organization) in the seventh and eighth grades will also have the desirable effect of carrying the work of the high school farther into the work of the college.

SPECIAL STUDENTS

The proportion of special to regular students in this college shows a tendency to increase slightly from year to year. In 1910 in this college, 26 of the 266 admitted were classified as "special"; in 1911, 34 of the 332 admitted; in 1912, 36 of the 330 admitted; in 1913, 44 of the 368 admitted. These figures are misleading if understood to mean that all of these students were unable to meet the entrance requirements. The term "special" should not be used to include students who meet fully the entrance requirements; but who for good reason are allowed to take only part work, or to concentrate their work for a year in a single department or two, or to postpone certain fixed requirements for graduation. We have students of all of these varieties. Quite a number plan their curriculum to cover five or six years in order to leave time for the study of music or art, outside of the university, or for self-support, and some are teachers in the schools who find time for only a course or two in college, but the work of all these is regular as far as it goes. They are desirable classes of students. The undesirable "specials" are those who wish merely a university connection without having completed a regular preparatory course. They are refugees from high schools or from private preparatory schools which they have tried in succession, without obtaining a certificate of graduation. We do not admit such knowingly but there are cases in which an admission on brief probation seems the only just course. I believe that no great injustice would follow if the minimum age at which a student might without passing all entrance requirements were raised from 21 years to 23 years.

NEW POINT SYSTEM

The College of Arts, Philosophy and Science has adopted in connection with the new marking system an additional requirement for graduation. Hereafter the student must have credit not only for 120 hours but also for 120 points. In computing points the mark P ("bare pass" or "low pass") counts for .8; A (average) counts 1; G (good) counts 2; and M (merit) counts 3. Under this system the exceptionally competent student who wins the mark M in all of his studies would be able to win his degree in three and one-half years. The student who receives the mark P in all of his studies would require five years in order to gain 120 points. The student who barely passes in one study but who excels in another will maintain a satisfactory average. The generally deficient student will be eliminated by the operation of the following rule:

"Any student who for two consecutive semesters fails to earn honor points amounting to at least 80% of the credit hours carried, shall cease to be a member of the University; and any student who, having taken 90 credit hours shall not have earned 72 honor points or more, shall cease to be a member of the University."

The aims of this system are (1) to bring pressure upon the lazy and the idle, and after fair trial to eliminate the incompetent; (2) to provide an incentive to the capable to do their best work, and to provide an index of relative scholastic achievement as a reward in itself, or as a basis for academic honors. I believe that this system will make for quality; for a better grade of work among all classes of students.

COMBINATION COURSES WITH MEDICINE

With the annexation of a medical college to the University, the College of Arts, Philosophy and Science has promptly provided two new combination courses,—one a seven-year course in Arts-Medicine, the other a six-year course in Science-Medicine. The first of these permits a Senior in Arts to register as a Freshman in the Medical College and the degree of Bachelor of Arts is conferred at the end of the first year in Medicine. The second of these permits a Junior in Arts to register as a Freshman in the Medical College and the degree of Bachelor of Science is conferred at the end of the second year in Medicine. These combination courses are a special privilege for those students who maintain a grade of "A" or better in the College of Arts, Philosophy and Science. Moreover they cannot be entered upon by any student who is behind his class in the total number of hours required or in the specific requirements for the degree in Arts or Science. They contain as required studies the pre-medical subjects recommended by the American Medical Association for such courses. After 1916, our Medical College will require two years of college work as prerequisite for admission to its work,

with certain fixed ingredients. It does not follow that after 1916 all students in the Medical College will receive the degree of Bachelor of Science at the close of their second year in medicine. That distinction will be reserved for students of at least "A" grade. As the purpose of these courses is to provide a better preparation for the college of medicine, it follows that the work in the College of Arts, Philosophy, and Science must be entirely passed before work in the College of Medicine is begun.

COLLEGE COMITY

The College of Arts, Philosophy, and Science has for many years prescribed fifteen credit hours as the normal amount of work that the average under-graduate could well accomplish, and in no case during the last six years has permitted any exception to the University rule which names 18 hours as the maximum that may be permitted even the best student. The Colleges of Agriculture and Engineering require of every student an average of $17\frac{5}{7}$ credit hours throughout his four-year course. Moreover the Colleges of Education and Engineering permit credits for "practical work" or "experience" in certain courses and in one of these colleges, "experience" may even be substituted for the language requirement for graduation. The Summer Session which is organized as a half-semester, also permits students of all kinds, without question, to undertake nine credit hours, that is, the maximum allowed to the best students during the university year, and, without much question, to undertake ten or even eleven credit hours. Much to be desired is an agreement among the colleges on the pedagogical issues raised by the facts just cited. In the absence of such agreement the College of Arts, Philosophy, and Science, will accept on transfer from other colleges within or without this university a total credit of not more than fifteen hours for each semester of residence.

CLASSES FOR TEACHERS

By a change in university rule the schedule committee is empowered to schedule classes up to six o'clock in the evening. At the request of this college, the following departments have agreed to carry on at least one class late in the afternoon or on Saturday morning: French, Zoology, European History, English (three classes). This is done for the special benefit of grade teachers who wish to carry one or two college studies with a view ultimately to obtaining a degree. Should these classes fill, the list of offerings will be increased from year to year.

The College has had a very satisfactory year; I believe the best year in its history thus far. There is complete harmony in its faculty, and the standard of work maintained among the students is unquestionably high.

Respectfully yours,

J. V. DENNY,
Dean.

REPORT OF THE DEAN OF THE COLLEGE OF EDUCATION

COLUMBUS, OHIO, June 22, 1914.

DR. W. O. THOMPSON, *President of Ohio State University.*

DEAR SIR:— In submitting my annual report for the work of the seventh year of the College of Education, I do so with unusual encouragement in the progress which has been made for the training of teachers. While there lingers in the minds of many of the members of the University faculty the evident belief that all that a person needs in order to be a good teacher is a knowledge of the thing he wants to teach, those who have been frank enough to make a study of the methods and processes of teaching have come to a realization of the real technique in the profession of teaching and the field of scientific investigation which is open for earnest students of education. Not only is their skill to be developed in the teaching process but there is a vast content of material regarding the teaching business to be mastered.

Another encouragement comes from the character of work which is being done by our graduates. They are so uniformly successful even in the first year of their experience that superintendents are requesting that we send to them only those who have been trained in the college of Education. One Superintendent, who tried one of our graduates this year for the first time, says he will look to us constantly for his teachers. Another says, "your graduates teach like experienced teachers."

A third source of encouragement has come from the departments. From this source we had reason to expect discouragement this year, for many things happened to cripple the teaching.

Since writing my last report, Mrs. Mary R. Laver, the head of the department of art, was called to her heavenly reward. She had been very successful in the organization of this department for five years. She was popular with her students and created in them an earnest spirit for art. She sought to have her work minister to the happiness and moral ideals of her students. She magnified in her work and in her personal contact with students and teachers, a refinement, a culture, a generosity, and a dignity which elevated her work. She became an influence in the art association of this State and of the nation. Mrs. Margaret Finney Dachnowski, her assistant, has carried the work along this year with satisfaction. But, as she will want to give her time to her home, some change will be necessary soon. If a man can be found to head this department, there is a character of work which he could do beyond what could be required of a woman. It is found in the opportunity which lies before the department of relating itself to the art forces of the community and state. The various art schools, the art clubs, the newspapers, the cartoonists, the amateur painters, all need leadership. Then the legislative forces of the state should be brought

to a comprehension of the state's opportunity. We, in America, are missing many of the finer things of life which belong to older countries, because we are not trained to enjoy them. Two of these are art and music. Surely the best instrumentality which the state has for developing these finer things in our lives is the University.

Manual Training has made a distinct progress this year. Some very definite ideals have been set forth and a complete program worked out for the realization of these ideals. Another year will send out some young men capable of leadership in this phase of public school effort.

Just at the beginning of the academic year, Professor F. P. Graves resigned as head of the department of the History of education. By his writing and research, he had brought his department into some prominence throughout the country and we were sorry to lose him. The teachers College of Columbia University showed its generosity by lending a member of its staff from the department of the history of education. After a month's work, he developed some mental aberration resulting from over work which resulted in the destruction of his life. After that Prof. A. R. Mead, who was pursuing graduate work at Columbia, carried the work of the department through the first semester. Through the second semester, Professor Geo. F. Arps of the department of psychology, taught the classes in history of Education. While such interruptions are not desirable, it must be stated that the extreme energy and effort put forth by the different teachers developed unusual interest and most satisfactory results in the history of education.

The department of principles and practice has aroused a new interest in the subject of practice teaching. Not only have the practice teachers done excellent work this year, but many of the teachers in the public schools demanded extra work in this department and Dr. Lowden organized a special course for them. Under his instruction these teachers developed a new zeal for their work. It will be impossible for Dr. Lowden to carry on the practice work alone next year, as there is every indication that classes will be doubled.

The department of psychology, under pressure of requirement for our degree and the new professional standards established by legislation, has been growing rapidly in numbers. A large field is opened for this department in our state. By a proper correlation of this department with the normal schools, both state and county, many problems of child education can be successfully studied. The enlargement of our laboratory with its splendid equipment for educational research makes it possible now for teachers in the public schools to get direction and help which they could not have had previously.

School administration has had a successful year. This department had opportunity to give more help to the school survey than was given by any other state agency. Now, that supervision has become universal throughout the state, new demands will be made upon this department.

It should be made especially helpful to the state superintendent of public instruction and should be ready always to serve his office.

The placing of two of the members of the faculty of the college of education upon the high school board of inspectors furnished a definite link between the public schools and the University. This gives no recognition of superior rights to either institution, but helps to perfect the organization of the state's forces for the education of her youth.

The great need of the college of Education at present time is a plant of its own. It should have one building for recitation, office and laboratory purposes, and it should complete an arrangement with the city board of education for a high school upon the campus. An unusual opportunity is before this college and should not be lost by further procrastination. The completion of these plans would place the Ohio State University in a distinctly advanced position in its work for public schools.

For the uniform courtesies which have come to me from members of the faculty and for the constant support from your office, it is my pleasure to make a heartfelt acknowledgment.

Respectfully submitted,

(Signed) W. W. BOYD,
Dean.

REPORT OF THE DEAN OF THE COLLEGE OF LAW

COLUMBUS, June 23, 1914.

DR. W. O. THOMPSON, *President, The Ohio State University.*

DEAR SIR:—I have the honor to submit the following report on the conditions of the College of Law for the year 1913-1914.

No changes have been made in the course of study in the College of Law during the past year.

By action of the Law Faculty, approved by the University Faculty and Board of Trustees, the rule granting degrees to graduates of high schools who merited fifty hours or more in the College of Law was repealed, so that as the rule now stands two years of college work are required of all candidates for the degree of Bachelor of Laws.

By like action of the faculties and Board of Trustees the entrance requirements for the College of Law to take effect in September, 1915, have been increased so as to require one year of college work for admission, with the further declaration that it is expected in the near future to require two years of college work for admission. The rule in regard to the admission of special students is retained.

By joint action of the University of Akron and Ohio State University a combined Arts-Law Course for these two universities has been established. In its essential features it is like the Arts-Law Course of our own University, and in effect the first year of the Law Course is substituted for the senior year in the University of Akron. The President of the University of Akron has written that already three students have entered for this Arts-Law Course.

Some correspondence has been had with the President of Miami University in regard to the establishment of an Arts-Law Course with that University, and it is under consideration with favorable prospects.

Professor William Herbert Page was granted a leave of absence for the year 1913-1914 and has spent the year at the Law School of Harvard University engaged in graduate work leading to the degree of Doctor of Laws.

Professor William B. Cockley has been granted a leave of absence for the year 1914-1915 and expects to spend the year at the Law School of Harvard University engaged in the same work as Professor Page.

During the absence of Professor Page, Professor C. E. Blanchard has been giving several courses in the College of Law.

Judge John A. Shauck after long and faithful service in the College of Law since 1900 retires voluntarily with the close of the current year. Judge Shauck's term on the Supreme Court bench of Ohio ends December 31, 1914, and as he does not expect to remain in the City of Columbus, he retires from his work in the College of Law.

The total number of students enrolled in the College of Law during the past year was 186.

Respectfully submitted,

JOHN J. ADAMS,
Dean of the College of Law.

REPORT OF THE DEAN OF THE COLLEGE OF PHARMACY

COLUMBUS, OHIO, July 1, 1914.

DR. W. O. THOMPSON, *President, Ohio State University, Columbus, O.*

DEAR SIR:—As Dean of the College of Pharmacy, I have the honor to submit herewith my report of the College of Pharmacy for the year ending June 30, 1914:

The number of students enrolled in the College during the year was 96. (86 men and 10 women.)

Of this number 61 (55 men and 6 women) were enrolled in the Short Course; 32 (28 men and 4 women) in the Long Course.

Three were registered as Special students.

In addition, 12 from the College of Veterinary Medicine took the course in Pharmaceutical Latin, and 2 from the College of Arts took the course in *Materia Medica*.

It is very gratifying to be able to report that the quality of work during the year has been the best in our experience. We have been able to cover a greater range and with a greater degree of thoroughness than heretofore.

The reason for this is in the fact that the grade of students now coming to us has shown a great improvement. They come with a much better preparation and seem to be possessed of a higher ability.

In addition to the regular work assigned in the Courses, we have been able to keep in touch with proposed changes in pharmaceutical methods. The ninth revision of the United States Pharmacopoeia is now nearing completion. Throughout the year we have had numerous comments and digests on proposed changes and additions to this authoritative text and have been able to try out many of the new methods proposed and make comments and criticisms thereon, and thus make ourselves felt in the decisions and acceptance of these proposed changes.

Two of our Courses in particular have been greatly developed. Drug Testing and Pharmaceutical Assaying, and Microscopic Examination of Drugs have been well developed and as now conducted afford an excellent training for those who expect to take up technical work, either in manufacturing or as Food and Drug Chemists.

Owing to the crowded condition of the Chemical Laboratories, it was thought best that the students in Pharmacy should conduct their work in Quantitative Analysis in the Pharmacy Laboratory, using for this work the same desks used for their work in Pharmacy proper. From this it has happened that the instructors having oversight of the laboratory work have also largely carried on this much of the work belonging to the Department of Chemistry. The condition is not altogether satisfactory, but still seems better than to further tax the Chemistry Laboratories, and it seems this arrangement should be continued until such time

as further space may be provided for both the Department of Chemistry and the Department of Pharmacy.

More strict supervision of laboratory work has been had during this past year than heretofore and with very gratifying results.

The Chemical and Pharmaceutical Library has been added to to quite an extent, the library fund allotted to the College having been spent in a careful selection of books bearing on the work in hand, and in addition a number of donations of sets of journals, reports, etc., have been received and altogether the library in the Chemical building is becoming highly useful and is being constantly used.

During the year one inspection trip was made by the advanced students, covering a period of three days, during which several of the largest pharmaceutical manufacturing establishments in the world were visited. Our students on this trip were given every opportunity to inspect pharmaceutical and chemical processes as carried on in a large way and were shown every courtesy by the companies visited. These inspection trips are considered of great value to the students and it is hoped in future years to devote more time to them.

At the close of the year the degree of *Bachelor of Science in Pharmacy* was granted to 6 persons and the certificate of *Pharmaceutical Chemist* to 16.

The six who received degrees have already been taken in the employ of the large manufacturing concerns, their equipment being such as to fit them for work of this kind.

The sixteen who received certificates have also all secured excellent positions, and we have had requests more than we could possibly supply.

This condition would indicate that the work of the College of Pharmacy is being recognized and that our output is being sought.

No considerable additions have been made to the equipment during the past year, but we have been able to keep up with the increased demand for apparatus and material from the funds allotted to our use.

In making suggestions for any further equipment to this College, I have to say that the most desirable addition at the present time is a properly equipped dispensing room, where training in the art of dispensing can be conducted under conditions more nearly those actually existing in practise. It is to be hoped that provision may be made for this in the near future.

Very truly yours,

GEO. B. KAUFFMAN.

REPORT OF THE DEAN OF THE COLLEGE OF VETERINARY
MEDICINE, JUNE, 1914.

DR. W. O. THOMPSON, *President of The Ohio State University.*

DEAR SIR:— I have the honor to report on the College of Veterinary Medicine for the year 1913-14, as follows:

CHANGES IN THE FACULTY

No important changes were made in the personnel of the teaching staff of the College during the past year. The position of House Surgeon is changed each year by selecting from the graduating class a man who has shown an aptitude for clinical work and who is able to do the laboratory work in clinical diagnosis. Dr. Max Wershow ('13) served in this capacity during the past year. His service was so efficient that it was thought best to retain him in the department as an instructor. This opportunity was offered when Dr. Ernest Scott, who had been giving splendid service as part-time instructor in pathology, resigned to devote his whole time to the College of Medicine. Dr. Wershow will conduct the courses in pathological histology under the general direction of Professor Richardson during the next year. So that enough money would be available to pay Dr. Wershow a fair salary it was necessary to drop temporarily the technician and combine the two salaries paid the technician and Dr. Scott. The advantage of having a full-time man in pathological histology will be a decided one.

Since the resignation of Dr. McNeil, Professor O. V. Brumley has been promoted to Professor of Surgery and Obstetrics and made Director of the Clinics, thus placing the supervision of the clinics under one head. This has proven much more satisfactory than when divided, one instructor having charge of the clinics for large and the other for small animals. Under Professor Brumley's direction not only has a splendid system of keeping clinical data been evolved but the number and variety of the clinical cases have been greatly increased. (See appended Clinic Report).

FACILITIES AND EQUIPMENT

Among the notable additions to the equipment of the College may be mentioned the Auzoux anatomical models imported from Europe. They will greatly facilitate the teaching of gross anatomy. The new, modern ambulance for large animals has proved a valuable piece of equipment. With it our ambulance service is made complete so that we are now in a position to render efficient service to animal owners who desire to send to our hospital patients with acute diseases or conditions which render them unable to walk. The new power elevator being installed in the rear of the clinic hall, to replace the old run-way which

was too dangerous to use, will make the transportation of large animals between the operating room and wards simpler and safer.

ENROLLMENT

The number of students candidates for the degree of doctor of veterinary medicine during the past year was 165, the largest enrollment of any of the ten state supported veterinary schools in the United States. Besides, 125 students from the College of Agriculture elected courses in the veterinary department, making the total number of students about 290.

COST OF MAINTENANCE

The cost of veterinary education to the state has been from time to time the subject of discussion among legislators and officials. In this connection the following table comparing Ohio's status in this regard with that of three other states, each supporting a veterinary school, may be of interest:

State and Institution.	Value of Plant.	Annual Cost of Maintenance.	Number of Veterinarians on teaching staff.	Number of Students.	Cost per Student per Annum.
OHIO. State University	\$150,000	\$32,000	8	*165	\$194 00
PENNSYLVANIA. University of Pennsylvania.....	450,000	60,000	20	118	508 00
NEW YORK. Cornell University	371,000	65,000	18	*110	599 00
IOWA. Iowa State College.....	200,000	41,000	13	*69	592 00

RESULTS OF STATE BOARD EXAMINATIONS

As in medicine, dentistry, pharmacy and law all persons who desire to practise veterinary medicine in Ohio must first pass an examination before a state board. In this state the examination is held under the auspices of the Agricultural Commission which appoints three disinterested veterinarians, each a graduate of a different school, to conduct the examination. At the last examination, held April 14, 1914, graduates of seven prominent veterinary colleges (including Ohio State University) and five non-graduates were examined with results as follows:

* Includes only students candidates for veterinary degree.

<i>Colleges Attended</i>	<i>Total</i>	<i>Successful</i>	<i>Percent</i>
Ohio State	44	43	97.6
Cincinnati	33	20	66.6
Indiana	4	1	25.
Grand Rapids	5	0	0
Chicago	5	1	20.
Cornell	1	1	100.
Ontario (Canada)	5	1	20.
Non-graduates	5	1	20.
Total	106	68	64.1

These results are significant. In other states our alumni have been equally successful in passing state board examinations.

THE CLINICS

The clinics have been well patronized by the animal-owning people of Columbus and vicinity and not a few patients have been sent to the hospital from distant parts of the state. From September 15, 1913 to June 1, 1914 (8½ months), 2,857 different animals representing 3,293 disease conditions were treated at the hospital.

Beginning with the past year an ambulatory or out-patient clinic was established under the direction of Dr. J. N. Shoemaker. Unfortunately, however, as yet no means of transportation has been provided. This is a serious handicap. Obviously, only calls from near traction or steam railway lines can be answered. It is hoped that some vehicle, preferably an automobile, will soon be made available so that this important phase of clinical instruction can be developed and made of greater service to the student body. An out-patient clinic reaches just the kind of cases (acute internal diseases, obstetrical cases etc.) the veterinarian has most to do with in routine practise.

The Summer Clinics were inaugurated June 10, 1914. They will undoubtedly be well patronized. Already several students have signified their intention of remaining at the University during the summer to take part in these daily clinical exercises. Through these clinics the number of cases will be increased and the public kept in the habit of bringing patients to the hospital without interruption as heretofore.

A detailed report to show the number and variety of cases treated during the past academic year is appended.

Respectfully submitted,

DAVID S. WHITE,

Dean.

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CLINIC REPORT
MEDICAL DISEASES.

	Horse	Cow	Dog	Cat	Pig	Chickens	Sheep	Parrot	Rabbit	Ferret	Monkey	
A. Diseases of the Digestive System—												
Taenia canina			3									3
Colic, engorgement	1											1
Gastro-intestinal catarrh	26	2	9	4								41
Ptyalism	1											1
Indigestion, acute	16	1	2			4						23
Oxyuris curvula	1											1
Coccidiosis			1									1
Diarrhoea			4		1	1						6
Enteritis			1	4	1	1						7
Rupture of stomach	1											1
Ascarus lumbricoides					1							1
Ascarus megaloccephalus	1											1
Icterus			1		1							2
Ascarus mystax			10	1								11
Hepatitis			1									1
Constipation			10	1		1						12
Rupture of liver			1									1
Total												114
B. Diseases of Respiratory Tract—												
Emphysema	3											3
Distemper	2		59	3								64
Influenza	10											10
Bronchitis	3		13	1		4						21
Traumatic pneumonia		1										1
Rhinitis	2											2
Congestion of lungs	1											1
Pneumonia	1	1										2
Laryngitis	6		2			1						9
Trachitis	1											1
Vaccination			30									30
Total												144
C. Diseases of the Organs of Locomotion—												
Muscular rheumatism	1		1		1							3
Azoturia	2											2
Total												5
D. Diseases of the Eye—												
Keratitis	11		2						1			14
Conjunctivitis	7		7	1								15
Periodic ophthalmia	4											4
Prolapsus			1						1			2
Corneal ulcer			4									4
Tumor			1									1
Choriditis	1											1
Hypopyon	1											1
Cataract	2											2
Total												44
E. Diseases of the Skin—												
Ring worm			5									5
Verrucose dermatitis	1											1
Filaria multipapillosa	1											1
Sarcoptic mange				4								4
Eczema	5		5							1		11
Ecematous dermatitis	4											4
Trichodectis pilosus	4											4
Acute dermatitis			3									3
Bath			2	1								3
Favus						4						4
Demodex folliculorum			19									19
Total												59

MEDICAL DISEASES—Concluded

MEDICAL DISEASES — Concluded.

	Horse	Cow	Dog	Cat	Pig	Chickens	Sheep	Parrot	Rabbit	Ferret	Monkey	
F. Diseases of the Nervous System—												
Chorea			5									5
Eclampsia			1									1
Apoplexy			1									1
Rabies			3									3
Spasms			6	1								6
Total												16
G. Diseases of the Lymphatic System—												
Lymphangitis	2											2
Total												2
H. Constitutional Diseases—												
Toxemia			1									1
Emaciation			1									1
Obesity			1									1
Rachitis			1									1
Total												4
I. Infectious Diseases—												
Cholera					1	1						2
Infectious abortion		2										2
Purpura hemorrhagica	2											2
Actinomycosis		2										2
Omphalo-phlebitis	3											3
Tuberculosis		4										4
Septicemia			1									1
Bacterial enteritis						1						1
Roup						1,236					1,236	
Total												1,238

SURGICAL DISEASES

B. Region of the Mouth—												
Enamel points	280											280
Long molars	30											30
Split molars	5											5
Alveolar periostitis	20		2									22
Shear mouth	1											1
Dental fistula	4											4
Caries	2		1									3
Gingivitis			2									2
Stomatitis			2									2
Wounds			3									3
Salivary fistula	1											1
Tartar	3											3
Supernumary teeth	2											2
Smooth teeth	1											1
Total												360
C. Region of Nostrils and Sinuses—												
Empyema	4	1										5
Epithelioma				1								1
Coryza			1	1								2
Total												8

SURGICAL DISEASES—Continued

	Horse	Cow	Dog	Cat	Pig	Chickens	Sheep	Parrot	Rabbit	Ferret	Monkey	
D. Region of Face, Sup. & Inf.												
Maxilla —												
Abscess			1	1								2
Lymphadenitis	1		1									2
Fracture of Inferior Maxilla			1	1								2
Osteo-sarcoma	1											1
Wounds	4											4
Papilloma	1											1
Sarcoma	1											1
Total												13
E. Region of the Ear —												
Papilloma	2											2
Split ear			4									4
Trim			101									101
Foreign bodies									2			2
Otitis			5									5
Total												114
C. Region of Eye and Eyelids —												
Fibroma						1						1
Enucleation				1								1
Eyelid lacerated	2											2
Total												4
H. Region of the Neck —												
Hematoma (deep)	2											2
Sarcoma			1									1
Wound	2	1	1									4
Fibroma	1											1
Abscess	1											1
Total												9
I. Pharynx, Larynx, Esophagus and Trachea —												
Choke	1		8	1								5
Hemiplegia laryngis	18											18
Abscess of parotid			1									1
Papilloma	1											1
Parotitis			1									1
Submaxillitis			1	1								2
Malignant goitre			6									6
Cystic goitre			11									11
Total												44
J. Region of Back and Loins —												
Paralysis	1		8		2	2						14
Total												14
K. Region of Poll —												
Poll evil	14											14
Bursitis (supra atloid bursa)	2											2
Removal of horns		8										8
Wound	2		1									3
Fibroma			1									1
Removing comb and wattles						2						2
Total												25
L. Region of Breast and Thorax —												
Abscess	4											4
Wound	5											5
Adeno-sarcoma			1									1
Total												10

SURGICAL DISEASES—Continued

	Horse	Cow	Dog	Cat	Pig	Chickens	Sheep	Parrot	Rabbit	Ferret	Monkey	
M. Region of Abdomen —												
Sarcoma			1									2
Ascites			1									1
Hydrocele	1											1
Fistula	2											2
Inguinal hernia	1											1
Edema	1											1
Peritonitis			1									1
Cystocele			2									2
Sebaceous cyst			5									2
Umbilical hernia			5									5
Abscess			2	1								3
Scrotal hernia	1				3							4
Ventral hernia	5				1							6
Total												31
N. Male Generative Organs and Urinary System —												
Castration	17	8	7	32	6	4						74
Cryptorchid	5				4							9
Papilloma of penis			1									1
Nephritis	1		2	1								4
Cystitis			1									1
Preputial catarrh	3											3
Abscess	12											12
Schirrous cord					1							1
Paralysis of penis	4											4
Stricture of urethra	4											4
Epithelioma	1											1
Eustrongylus gigas			1									1
Total												115
O. Perineal Region —												
Prolapsus rectum					2							2
Melano-sarcoma	1											1
Fibroma						1						1
Hemorrhoids			1									1
Proctitis			1	2		2						5
Total												10
P. Female Generative Organs and Urinary System —												
Cystic calculi	1											1
Dystokia			1	1								2
Retained placenta					1							3
Mastitis		1										1
Stricture of teat		3										3
Oestrus	1		3	1								5
Ovariectomy		2	96	27								125
Nymphomania	1											1
Ovarian cyst		1										1
Metritis			1									1
Egg bound						2						2
Total												145
Q. Diseases of the Fore Limb —												
1. Shoulders and withers —												
Fistulous withers	17											17
Skin wound	1		2									3
Abscess (shoulder)	9	1										10
Hematoma of withers	1											1
Shoulder lameness			1			1						2
Intertubercular bursitis	1											1
Omarthritis	3											3
Collar boil	3											3
Phlegmon of shoulder	1											1
Fibroma	1											1
Small round cell sarcoma	1											1
Luxation			1									1
Wounds			1									1

SURGICAL DISEASES—Continued

	Horse	Cow	Dog	Cat	Pig	Chickens	Sheep	Parrot	Rabbit	Ferret	Monkey	
Q. Diseases of the Fore Limb —												
Concluded.												
2. Elbow and forearm —												
Shoe boil	1											1
Wounds	2		1									3
Arthritis	1											1
Fracture of humerus			4	1								5
Radius			1									1
8. Carpus —												
Carpitis	4											4
4. Metacarpus —												
Splint	3											3
Contracted tendons	5											5
Tendinitis	7											7
Papilloma	1											1
Fracture	1											1
6. Fetlock —												
Interfering wounds	2											2
Arthritis	1											1
Granuloma	1											1
Wound	1											1
Dermatitis	1											1
Sesamoiditis	1											1
6. Phalanges —												
Ringbone	16											16
Sidebone	2											2
Granuloma	3											3
Rupture of tendon	2											2
Trimming claws			2									2
Total												109
R. Diseases of Hind Limb —												
1. Croup and thigh —												
Wounds (skin)	2			1	1							4
Wounds (deep)			4	2								6
Abscess	1											1
Wound	1											1
Granuloma	1											1
Coxitis	2											2
Fracture of femur			2									2
2. Knee joint			2									2
Wounds (injuries)	2											2
Gonitis	2		1									3
Strain	1		1									1
Suppurative gonitis	2		1									2
3. Leg —												
Stringhalt	4											4
Abscess				1								1
Elephantiasis	2											2
Fracture of tibia			3	1					1			5
4. Hock —												
Spavin (bone)	52											52
Spavin (bog)	2											2
Wound	2											2
Arthritis	1											1
Curb	9											9
Contusion			1									1
5. Metatarsus —												
Tendinitis	2											2
Fibro-sarcoma			2									2
6. Phalanges —												
Ringbone	8											8
Skin wound	2											2
Open coronary articulation	1											1
Frozen								1				1
Granuloma	2											2
Wound	4											4
Sesamoiditis	2											2
Fracture of sesamoid	1											1
Arthritis urica						2						2
Total												133

SURGICAL DISEASES—Concluded

	Horse	Cow	Dog	Cat	Pig	Chickens	Sheep	Parrot	Rabbit	Ferret	Monkey	
S. Diseases of the Hoof —												
Navicular arthritis	17											17
Thrush	4											4
Quittor	14											14
Nail prick	8		1									9
Contusion over lateral cartilage	2											2
Penetrating street nail	3											3
Suppurating corn	3											3
Chronic laminitis	1											1
Calk wound	4											4
Chronic pododermatitis	4											4
Acute pododermatitis	1											1
Sidebones	2											2
Quarter crack	2											2
Contracted heels	2											2
Keratoma	2											2
Split claw			2									2
Supernumerary toe			1									1
Total												78
T. Region of Tail—												
Caudal amputation	2		64									64
Melano-sarcoma	3											3
Epitheloma	1											1
Tail trim			64									64
Wound of tail			1									1
Total												135
V. Tuberculin test ...		105										105
Total												105
W. Examination for soundness..	34		18	1	2							50
Total												50
X. To be destroyed.....	1		18	20			2					36
Total												36
Z. Experimental Animals —												
Tuberculin test		3										3
Ectocardia		1										1
Total												4
Miscellaneous —												
Influenza immunization.....	8											8
Boorders	4		10	2								16
Arsenical poisoning			2									2
Strychnine poisoning			2									2
Ptomaine poisoning			3	1		1						5
Hair clip			1									1
Pseudo-coprostasis						1						1
Total												35

Total number of animals treated..... 2,857
 Total number of conditions in all animals..... 3,298
 Total number of medical diseases..... 1,641
 Total number of surgical diseases..... 1,652

REPORT OF THE DEAN OF WOMEN

DR. W. O. THOMPSON, *President, The Ohio State University.*

DEAR SIR:—As we look forward to the new academic year of 1914-1915, the housing of the women students becomes increasingly important. May I present the following facts for your consideration, praying for the determination of a policy which may be consistently applied to the situation.

The number of women students attending the Winter session.....	881
The number of city girls.....	437 = 49.6%
Those living at home using traction.....	36
With friends	20
Working in homes for room and board.....	17
	<hr/>
	510 = 57.8%
Out of town girls dependent on the housing system.....	371
Oxley Hall houses.....	68
The Annex	10
St. Hilda's Hall.....	15
Alpha Phi	9
Newman House	10
	<hr/>
	107 = 12.2%
Number scattered in houses in groups above 3.....	126 in 21 houses
Number scattered in houses in groups under 3.....	138 in 99 houses
	<hr/>
	30% = 264 in 120 houses

Two hundred women students skirmish for meals.

Oxley Hall expects to have nine vacancies next year, ninety applicants are already lined up for these.

The present system of lodging houses is—

1. A menace to the women students themselves.
 - (a) The boarding and lodging houses are managed for gain and are responsible to nobody.
 - (b) Their condition is unsanitary, crowded, ill-ventilated, inadequately heated. Great difficulty is experienced in making a sanitary inspection.
 - (c) Two hundred women skirmish in neighboring restaurants and cafeterias for their food. The lack of proper food and irregular meals at irregular hours is breaking down many of our students.
 - (d) The women are living in isolation, one or two off in pockets; or if unfortunate in their choice, they are experiencing an actual loss in refinement. I may say that the prices are so low that few homes of refinement in the neighborhood are open to women.
2. It is also a menace to the University itself.
 - (a) It is a question whether the University has a right to bring the women here unless we can insure living quarters, healthful, socially desirable, and morally safe.

(b) We are turning from our doors, women who would be a credit to us. Many parents write they would be glad to send their daughters if they can live in Oxley Hall. There is probably no member of the Board of Trustees who would send his daughter to live in lodgings and skirmish for meals.

(c) The proportion of women students to the whole student body is decreasing. In 1910 it reached the climax, 28.8%.

1910	28.8%
1911	28.6%
1912	28.1%
1913	28.0%

This is probably due to lack of housing facilities.

(d) The taste, poise, and sympathy evinced at Oxley Hall have a profound influence upon the refinement and character of the students and make effective the ideals that govern the life of the best individual homes. The tone of our University should be such as to *demand respect* from the neighboring schools.

(e) We are not meeting the needs of the Ohio women students outside of the city of Columbus.

The solution of this problem lies either in taking some large house like an apartment house and leasing it for a term of years or in establishing a chain of houses in the neighborhood, housing from fifteen to twenty girls each and opening a large dining room as a center for the women lodging in that particular neighborhood. Or it lies in repairing the house now occupied by Dean Denney thus creating the proper Annex for Oxley Hall and determining upon some policy as to the building of college dormitories. Oxley Hall has a profit of \$8,000.00 in the treasury, which allows for the proposed repairs with a probable doubling of the rent and a good interest on the money invested.

Appealing again in the name of our eight hundred and eighty-one women students and in the name of those who wish to come and are turned away because of our inadequate housing facilities, I leave our problem in your hands.

Most respectfully submitted,

CAROLINE M. BREYFOGLE,
Dean of Women.

REPORT OF DEPARTMENT OF AGRICULTURAL EXTENSION

COLUMBUS, June 23, 1914.

DR. W. O. THOMPSON, *President, The Ohio State University.*

DEAR SIR:—In making my report on the work done by the Agricultural Extension Department for the fiscal year beginning July 1, 1913, and closing July 1, 1914, I desire to call particular attention to the fact that our appropriation (\$35,000.00) has been the smallest since 1909, when the law providing for Extension work in agriculture and home economics carried with it an appropriation of twenty thousand dollars. No new lines of work have been attempted during the year: attention has been given to developing the different features of the work already in hand. As a matter of information, every form of Extension work now being done was taken up on a small scale between July 1, 1905, when Agricultural Extension work in Ohio was begun, and July 1, 1909, when the first special appropriation was made.

AGRICULTURAL EXTENSION SCHOOLS

Seasonal and financial limitations have kept the number of Agricultural Extension Schools constant for about three years. During the past year, the number of instructors in agricultural subjects has been reduced from three to two in each school, and the result has been very satisfactory. There have been two instructors in the women's department of each school. The average attendance has been practically constant through five years. No spectacular features have been introduced to attract the idly curious or to entertain a crowd. The leading farmers of the communities have supported and attended these schools.

DEMONSTRATIONS

The spraying and pruning demonstrations conducted by the department have been confined to 15 southwestern counties. A shortage in the number of demonstrators has limited the number of meetings which could be held and the territory covered. The shortage of fruit made it impossible to conduct fruit packing demonstrations this year.

During the spring thirty-six plants for planting home, school, and church grounds have been prepared.

Arrangements have been made for stock judging exercises at 17 county fairs. Since the close of the Extension Schools, the services of one instructor have been in demand to coach boys who are expecting to enter the judging exercises at fairs this fall.

Increased attention has been given in both fall and spring meetings to demonstrations in the mixing and application of fertilizers. The attendance at these meetings has not been large and the instructor has

been able to give personal attention to the individual problems of those present. Open air meetings are conducive to the asking of questions.

One instructor has given the greater part of his time during the year to discussing corn, the care of milk, and poultry, before the teachers and pupils of the public schools. Discussion of the first two subjects have been based on materials and apparatus brought before those instructed. There is a constant increase in the demand for well-qualified instructors and demonstrators for public school work.

Before and after the Extension School season, the time of the home economics instructors was given to purely demonstration features before women's clubs and public schools. Bread-baking, the cooking of meats, and home decoration were dwelt upon more particularly than other subjects, especially in the sixty public school meetings held.

NEWSPAPER SERVICE

It has been the aim of the department to furnish information concerning both the approved agricultural practices and social life in the country, and news concerning the University and the Agricultural College in particular.

Manuscripts and photographs have been furnished the American Press Association and the Western Newspaper Union every three weeks—238 columns of material for the year. All of the main articles sent out by the associations have been signed with the name of the writer and "College of Agriculture, Ohio State University" so that the institution might have the benefit of the advertising.

A multigraphed news-letter has been mailed every two weeks to 750 newspapers in the state. Many papers have published the entire letter; some have used parts of the material as editorials; others have clipped what was of particular news interest to their subscribers.

PUBLICATIONS

The Agricultural College Extension Bulletin, which was first published in October, 1905, for the use of children, teachers, and others interested in an elementary discussion of agricultural and nature study subjects, through its main articles, its poetry, songs, and illustrations, has gained a permanent place in the hearts of the agricultural readers of the state. The ten issues of the past year have discussed many of the subjects in a more serious style than was attempted in the early issues. Only four of a contemplated six Farmers' Reading Course Bulletins have been issued on account of the inability of the members of the Dairy Department to furnish material.

SPECIAL WEEKS

Instruction taken to the home or community of the learner will never push back the intellectual or spiritual horizon so far as will in-

struction received in the parent or central institution, because the conservatism or inertia of a community asserts itself over the individual. In an institution there is an atmosphere of its own creation into which the individual thrusts himself and because of which he develops new ideals and is fired with a desire to become more independently active. A one week's program for farmers and their wives was carried out at the University, February 2-5, 1914, with an attendance of nearly one thousand. During this week subjects on general farming and home economics were given a larger place than were those dealing with life in the country. Arrangements have been made for a Country Life Week, August 10-14, 1914, during which period more attention will be given to the socializing agents of the country.

STATISTICS

Agricultural Extension Schools (including courses for men and courses for women)	43
Attendance at these schools.....	5,304
Average attendance per school.....	123
Spraying and Pruning Demonstrations (one man—in 15 southwestern counties)	46
Attendance	1,535
Average attendance per meeting.....	33
Fertilizer Meetings	64
Attendance	5,435
Average attendance per meeting.....	85
Farmers' Fall Festivals (2 days each).....	16
Attendance	2,242
Average attendance per festival.....	140
Fair Exhibits	7
Boys' Stock Judging Contests at County Fairs.....	10
Average number of boys entered each contest.....	25
Number of days spent this spring in coaching boys who expect to enter stock judging contests at fairs this fall.....	50
Number of counties in which coaching work was done.....	7
Field Crop Tests.....	24
Corn Varieties	8
Fertilizers	16
Number of counties in which tests are being conducted.....	16
Meetings at High Schools (H. E. Eswine)	
Number of schools at which one or more talks were given.....	70
Number of talks given during the day.....	135
Attendance	4,370
Number of night meetings held.....	35
Attendance at night meetings.....	4,165
Farms visited by three instructors.....	133

Lectures at State Fair.....	12
Women's Club Meetings.....	14
4-day meetings.....	1
3-day meetings.....	5
2-day meetings.....	6
1-day meetings.....	2
Total number of days' work.....	33
Home Economics Work in Public Schools	
4-day meetings.....	1
3-day meetings.....	2
1-day meetings.....	57
Total number of days' work.....	67
Bread baking contests judged and talks given.....	5
Miscellaneous Home Economics meetings.....	4
Farmers' Week—5 days	
Attendance of men.....	590
Attendance of women.....	180
Total attendance shown by registration cards.....	770
Number of counties represented.....	77
Poultry exhibit at State Poultry Show for 1 week	
Poultry exhibit at Preble County Poultry Show for 1 week	
Services of three instructors in State University Summer School— July 1 to August 8, 1913	
Plans submitted for the planting of home, church, and school grounds...'	36
Identifications of plants, insects, etc.....	164
Miscellaneous Lectures	
Chautauquas	2
Commencements	8
Community Meetings	52
Corn Meetings	7
Talks on Centralization of Schools.....	11
Colt Shows and Miscellaneous Contests judged.....	4
Picnics	11
Miscellaneous School Meetings.....	11
School Exhibits Judged.....	7
Summer Schools Addressed.....	6
Farmers' Institutes	4
Alfalfa Meetings	4
Y. M. C. A. Meetings.....	17
Ministers' Associations addressed.....	2
Horticultural Meetings	2
Federation of Women's Clubs.....	1
Talks at County Fairs.....	3
School Exhibit at Lucas County Fair judged.....	1
Instruction at Teachers' Institutes	
Number places	7
Number of days' work.....	19
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Publications

Agricultural College Extension Bulletin, 10 issues. Average number copies per issue.....	29,000
Farmers' Reading Course Bulletin, 4 issues. Average number of copies per issue.....	4,000
Plate Service	
Number of pages furnished to American Press Association.....	17
Number of pages furnished to Western Newspaper Union.....	17
Total number of pages.....	34
Special Arbor Day page.....	1
News letter sent every two weeks to 750 newspapers. Number prepared	25

A. B. GRAHAM,
Supt. Agr. Extension.

REPORT OF THE DEPARTMENT OF PHYSICAL EDUCATION

(MEN)

DR. W. O. THOMPSON, *President, Ohio State University.*

DEAR SIR:—I have the honor to submit the following report for the Academic year, 1913-14:

Total number of individual men enrolled in the Department this college year.....	1,135
Total number enrolled, First Semester.....	1,067
Total number enrolled, Second Semester.....	819

By statistics of this Department, nearly ninety per cent. of the male students taking the required course are first year men.

Only about sixteen per cent. of this number are residents of Columbus; the balance are "strangers in our city", and, owing to personal exigencies, live in boarding-houses, boarding-clubs, and some few in private houses.

In the great majority of cases the home environment is entirely lacking. The student is placed upon his own resources and responsibility, with little or no restriction or advice as to his personal habits.

Ninety-four per cent. of this year's freshmen class (men) had no training in personal hygiene, or "health habits", before entering the University.

To reach these men is the aim of this Department.

I. To provide such instruction, supervision, and experience in the fundamental laws of health and personal hygiene as will acquaint the student with his health possibilities and enable him to intelligently formulate his own policy of personal health control and protect and help his associates.

II. To provide instructions in the various motor activities (outdoors as well as in) that are known to develop organic vigor, co-ordination, bodily skill, endurance, and many valuable traits of character. The value of daily rational exercises as a "health habit" is instilled into the student in this section of the work.

III. To provide necessary medical advice, and emergency treatment to students of this Department while they are on the University campus during regular school hours.

"In a word"—Health and Efficiency.

DEPARTMENT RECORDS. (MEN)

FIRST SEMESTER.		SECOND SEMESTER.	
Total number of students.....	1,067	Total number of students.....	819
Merited	7%	Passed	76%
Passed	81%	Failed	10%
Failed	5%	Conditioned	4%
Conditioned	8%	Deferred, on account of sickness	
Deferred, on account of sickness	4%	and swimming	10%

NUMBER OF CLASSES HELD IN THE DEPARTMENT FOR MEN, EACH WEEK

Number of required classes in Physical Exercise..... 38

NOTE: During the fall and spring, weather permitting,
all class exercises are held out-doors.

Number of classes in advanced exercises (optional)..... 7

Number of classes in swimming. Total, each week..... 24

59

SPECIAL CLASSES THIS YEAR.

For the first time, this year, two regular periods were scheduled at 5 P. M., in corrective individual exercise for men, who were physically unfit to take the exercise given in the regular scheduled classes.

CLASSES IN SOCIAL DANCING

During the early part of the first semester, and the latter part of the second semester, free private class instruction was given to the members of the freshmen class in the new social dances. Special attention was paid to the men who could not dance. At the close of the year, a reception and dance was given to the out-going freshmen class.

A number of private classes were held for members of the Faculty the early part of the second semester and were well attended.

PHYSICAL EXAMINATIONS

Total number of required examinations made of freshmen. 915.

GENERAL POSTURE		MUSCULAR DEVELOPMENT	
Good	27%	Good	31%
Fair	62%	Fair	53%
Poor	11%	Poor	16%

HEART AND LUNGS.

An unusually large number (15%) of cases of functional and organic heart trouble was found; but a very small percentage of this number was serious enough to be excused entirely or had to be given special work during the entire school year. Seventeen per cent (17%) had some weakness of lungs, or inherited tendency toward lung trouble.

EYES.

Twenty per cent. (20%) wore glasses and sixteen per cent. (16%) more were found who needed them; nearly all of these are now wear-

ing properly adjusted glasses that add greatly to their health and efficiency.

NOSE AND THROAT.

The usual amount of nose and throat disease was found. Catarrhal conditions of the nose and throat are very prevalent in this state.

TEETH.

The teeth of thirty-one per cent (31%) of the students examined needed attention. In every case, the immediate care of the teeth was urged.

The SECOND EXAMINATION of the students and measurements taken at the end of the second semester, shows that:

83% gained in weight.

86% gained in chest expansion. (ninth rib)

65% gained in lung capacity, and that 86% were benefited in some physical or mental way.

PERSONAL HYGIENE

A very definite and persistent effort is made to correlate the lectures with the facts brought out in the physical examinations and the questionnaire answered by the students early in the year.

Each student in the Department is required to attend one lecture a week in this subject; during the first semester seven different sections are held each week, and a total of 91 lectures given. Students are required to keep note books for their lectures. Recitations are held and those not making a creditable showing during the semester are given a final written test.

The course covers the cause, prevention and hygienic treatment of the most preventable diseases, conditions, and habits, which lower the vitality, and interfere with the health and efficiency of the student.

A LARGER AND BETTER SWIMMING POOL NEEDED

Ability to swim is one of the requirements of the Department. Swimming is one of the most healthful and beneficial exercises known; but the poorest part of our equipment is provided for this exercise. The inadequacy of a swimming pool 20 x 30 feet, to accommodate a student body of 2,500 men, is apparent. To keep this pool in a hygienic condition is one of the hardest problems of the Department. The pool is emptied and flushed daily, and thoroughly scrubbed three times a week. During the warm months, the water is necessarily kept flowing in and out of the pool all the time. This is rather expensive, but the only way to maintain a sanitary condition.

Number taught to swim this year.....	207
Number conditioned	22
Number deferred	59

When our limited facilities are considered it is remarkable that 207 men were taught to swim this year.

THE STUDENT'S HEALTH

EMERGENCY SECTION

Advice and medicine are furnished free; but this Department attempts no treatment of any sort except that which is obviously purely protective emergency treatment.

DISEASES TREATED DURING COLLEGE YEAR, 1913-1914

INFECTIOUS DISEASES

Typhoid fever	1	
Septicemia	2	
Diphtheria	2	
Bronchial pneumonia	1	
Influenza	64	
Tuberculosis	2	
Malaria	2	
Varicella	2	
Measles	7	
Acute tonsillitis	73	
Rheumatic fever	5	
Mumps	24	
Adenitis	6	
Food poisoning	3	
Gonococcus, infection	12	
Syphilis	1	207

DISEASES OF THE DIGESTIVE TRACT

Acute gastritis	48	
Gastralgia	8	
Appendicitis	1	
Intestinal indigestion.....	12	
Chronic constipation	11	80

DISEASES OF THE LIVER

Jaundice	2	
Disorders of the liver.....	33	35

DISEASES OF THE RESPIRATORY TRACT

Epataxis	7	
Coryza	84	
Chronic nasal catarrh.....	17	
Acute pharyngitis	61	
Acute bronchitis	76	
Bronchial asthma	2	
Acute pleurisy	9	256

DISEASES OF THE KIDNEYS

Renal Calculus	1	
Floating Kidney	1	

DISEASES OF THE BLOOD

Anemia	7	
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DISEASES OF THE DUCTLESS GLANDS

Thyroiditis	1	
Goitre	3	13

DISEASES OF THE NERVOUS SYSTEM

Hysteria	1	
Epilepsy	1	
Neurasthenia	2	
Neuralgia	16	
Neuritis	1	
Lumbago	12	
Migrains	18	
Tortocollis	1	52

DISEASES OF THE EYE

Foreign particles removed from the eye.....	28	
Conjunctivitis	31	
Eye strain	26	
Other eye diseases.....	14	99

DISEASES OF THE EAR

Acute otitis media.....	8	
Furunculosis	3	
Other diseases of the ear.....	5	16

DISEASES OF THE HEART..... 10

DISEASES OF THE SKIN

Urticaria	6	
Eczema	33	
Herpes Zoster	3	
Acne	12	
Furunculus	49	
Carbunculus	2	
Tinea circinati	25	
Tinea sycosis	7	
Other skin diseases.....	11	148

MENTAL DISEASES

Paranoia	1	
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GENITO-URINARY DISEASES

Orchitis	5	
Cystitis	6	
Varicocele	1	
Hydrocele	1	14

GENERAL DEBILITY 19

FRACTURES

Nose	2	
Rib	1	
Wrist	1	
Leg	1	5

DISLOCATIONS

Rib	1	
Knee	3	
Shoulder	3	
Thumb	2	
Elbow	1	
Wrist	1	11

CONTUSED, INCISED AND LACERATED WOUNDS..... 117

SPRAINS AND BRUISES..... 66

ABSCESSSES, ULCERS AND FELONS..... 21

CONCUSSIONS OF THE BRAIN.....	4	
HERNIA	4	
BURNS	35	64
VACCINATION AND AFTER TREATMENT.....		235
<hr/>		
Total number of cases treated this year.....		1,447
Total number of cases treated last year.....		821
<hr/>		
Increase this year.....		626

This does not necessarily mean that there has been more sickness, or any more accidents among the students, this year than previous years; but it does mean that the Emergency Section is being used by a larger number of upperclassmen each year.

Total number of individual men treated.....	849
Of this number, 597 were first-year students, and 252 upper classmen; thus, nearly one-third of all men treated were other than Freshmen.	
Total number of men treated for more than one disease or accident..	183
Total number of men given emergency treatment and sent to other physicians	316
(This does not include those sent to oculists for correction of vision.)	

The following table gives the number of treatments each month:

September	68
October	163
November	159
December	111
January	186
February	300
March	232
April	78
May	150
<hr/>	
Total	1,447

This is the season of social dissipation, the months of changing weather, the "indoor months," often spent by the students under most unfavorable housing conditions. Unfortunately, during these months the indoor athletic and basket ball season is at its height. The main floor of the Gymnasium is of necessity used for Varsity games and contests, social dances, etc., with audience often packed in from floor to roof. At these times all kinds of dirt and infection are carried into the gymnasium, and we have neither time nor sufficient help to properly clean and renovate this room after these affairs, without most seriously interfering with our required class-work. Hence, the main floor of the gymnasium has, after these gatherings, often been anything but the hygienic place it should be. Therefore, a request is made for all-

night janitor-service, (in another section of this report), in order to remedy as far as possible this danger to our students.

The accidents treated this year such as burns, incised, contused, and lacerated wounds, sprains fractures, bruises, etc., number about 18% of the total treatment; these are unavoidable. But, the contagious and infectious diseases (involving principally the respiratory tract) number 33% of the total, and are more or less preventable.

CO-OPERATION WITH THE DEPARTMENT OF ATHLETICS

During the indoor season (from December to April) the use of the main floor of the gymnasium was turned over to the Department of Competitive and Recreative Athletics, for athletic and basket-ball during every available hour; in fact they had exclusive use of the main floor one-third more hours each week than the men had for their required class-work.

Three sets of basket ball baskets were purchased by the Department, erected, and courts marked out on the main floor so as to assist the Department of Athletics in conducting their basket ball league games.

All candidates for Varsity teams that were sent to Head of this Department, for medical examination, were examined promptly, and the majority of these examinations were made after college hours in order to accommodate the management and get the candidate eligible before certain games. On numerous occasions, students were excused from class to attend rallies, important conferences, and to take part in games.

Respectfully submitted,

H. SHINDLE WINGERT,
Head of Department.

PHYSICAL EDUCATION.

REPORT FROM THE WOMEN'S SECTION. 1913-14

From Registration day until October 1, the work of the department consisted of assignment of lockers, enrollment of classes, beginning the teaching of swimming, by Miss Sauer and Miss Courtney and the making of physical examinations by myself.

Gymnasium class work was begun October 1, the first and second year classes, coming at 9, 10 and 11 o'clock, being placed under Miss Sauer's direction, and taught by her with the assistance of Miss Courtney. The third and fourth year classes were given class work at 1 o'clock three days, and from 6 to 7:30, two days a week by myself, assisted by Miss Courtney one of the 6 o'clock periods. Recreation was encouraged in the form especially, of basket ball, and occasional 4 o'clock periods were secured in the lower gymnasium for practice under Miss Sauer's direction, and evening periods following junior and senior class work, under direction of Miss Courtney, myself and student assistants.

Lectures on Hygiene were begun October 1 at 8 and 4 o'clock, Tuesdays and Thursdays, and continued through November, (twice a week, for $\frac{1}{2}$ semester.) The course in History and Principles of Physical Training for Women was conducted on Tuesdays and Thursdays at 1 o'clock, for advanced students. Physical examinations were continued at other hours, and consultation hours kept for students daily. Some, having physical defects were given corrective exercises in the office. Data gained from the physical examinations corresponds to that reported other years; that gained from consultations has been recorded on a new card this year, and a synopsis will be found on a separate sheet.

With the beginning of the second semester the course in Emergencies and First Aid, Domestic Hygiene and Home Nursing, was begun as in previous years, under the course in Sanitation, in the department of Home Economics, and continued three hours a week until April 15. The course in History and Principles of the first semester's advanced Physical Education course, was continued under the subject of Kinesiology. All other department work was continued as during the first semester.

The annual open lesson was given without difficulty, on March 31, where for the first time four years of progressive work were illustrated, junior and senior students who had elected advanced work, taking part in the program.

On returning from the spring vacation, Hygiene lectures were again given; while out of doors sports under the direction of Miss Courtney, and swimming and tennis were substituted for indoor gymnastics as far as possible. Physical measurements were again taken, and the physical examinations were repeated with those who showed defective conditions of health, or other conditions which might have changed during the year.

ALICE L. GOETZ.

MEDICAL TREATMENTS

A record of the treatments given to students, including Office treatments, Prescriptions given to be filled at Drug Stores, Medical Advice and trips made with students to oculist, nose and throat specialists, etc., gives the following data:

	<i>No. of Cases.</i>
Abscesses (opened and dressed)	2
Anaemia (prescriptions)	3
Backache, cases serious enough to warrant treatment (Prescriptions and hygiene)	7
Biliousness, cases serious enough to warrant treatment (Prescriptions and hygiene)	10
Boils (opened and dressed)	3
Burns (most from Chem. Lab.)	9
"Cold" (meaning acute Coryza) (Prescriptions and Hygiene).....	23
Constipation	21

"Corns" treated	6
Acute Bronchitis, treated.....	12
Dislocations (fingers—1, patella—7) reduced.....	8
Exophthalmic goiter (Referred to Dr. Crotti).....	3
"Fainting"	3
Hernia	1
Hysteria (Prescriptions and Mental Treatment).....	9
Indigestion (Prescriptions)	13
Influenza	17
Injuries:	
Fractured rib (1 case, strapped), kept under observation three weeks.	
Cuts on hands, from broken glass in laboratories (broken glass removed, and injuries treated, 12 cases)	
Foreign bodies in eye, 7 cases (removed)	
Severe bruises, treated, 2 cases.	
Injuries to knees, from falls (usually on slippery floor in swimming pool room) 15 cases	37
Laryngitis	14
Measles (diagnosed and sent home)	3
Menstrual disorders	44
Neurasthenia (many of these treated all year).....	9
Nervousness (usually in connection with other troubles).....	38
Mumps (diagnosed and sent home).....	3
Organic Heart Lesions	3
"Pain"—Neck 1 case, appendix 7 cases, cystitis 2, cramps in thighs 2, lum- bago 4, and ovarian pain 3 cases.....	19
Pleurisy (Strapped and treated)	2
Post-operative complications	1
Relaxed arches	11
Rheumatism	14
Referred to physicians	20
Skin eruptions —	
Contagious, 5 cases; Non-contagious, 9 cases	14
Sprains	11
Special Physical Examinations.....	15
(those whose hearts needed watching, tubercular suspects, etc.)	
Tonsillitis	18
Vaccinations	48
Consultations (those who did not need medical treatment)	
With regard to family troubles, 4 cases	
With regard to effect of schedule, or certain studies of health or nervous condition etc., 22 cases. In some of these consultation with Pro- fessors, or Professor Hockett, or Professor Ramsower, resulted in satisfactory adjustment.	
With regard to mental states, feelings, troubles of a personal nature, etc.	48

Many consultations have not been recorded; usually for lack of time, as usually a waiting line, does not give me time, to put down all that might be of interest. Those excused from class for transient ailments, were in every case personally interviewed by me before the excuse could be granted; they numbered, 403 the first semester, and 285 the second semester. Every one of these interviews included a statement by

the student of her trouble, inquiry as to what she was doing for herself, suggestions as to the best outline of procedure, and insistence, when necessary on her carrying out needed lines of treatment or care of herself. Students were constantly sent for and interviewed with regard to their health, and observance of hygienic measures.

Many were encouraged to make free use of the baths in this department, where inquiry showed that plenty of hot water was not available at rooming houses; and there have been many regular attendants all year; most of them coming during the evenings when the department has been kept open for this and other uses.

Several were given special outlines of corrective exercises, and these also were practiced in the early evening hours, as this was the only time when they had sufficient leisure to do the work.

ALICE L. GOETZ.

FINANCIAL REPORT
OF THE
OHIO STATE UNIVERSITY
For the Year Ending June 30, 1914

SCHEDULES A TO M

(253)

OFFICERS OF THE BOARD OF TRUSTEES, THE OHIO STATE UNIVERSITY

COLUMBUS, OHIO, October 1, 1914.

Honorable JAMES M. COX, Governor of the State of Ohio:

SIR:—I have the honor to transmit herewith the forty-fourth annual report of the Board of Trustees of The Ohio State University.

The report, as usual, contains such statements and exhibits as are necessary to show the financial transactions of the past year, and the manner in detail of receiving and disbursing the various funds; also such other information as may be of general interest or required by law.

The Annual Report of the President of the University to the Board of Trustees is made a part of this report.

All of which is respectfully submitted.

CARL E. STEEB,
Secretary.

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- SCHEDULE B-1. Income.
- SCHEDULE B-2. Details of Income from students.
- SCHEDULE C-1. Classified Expenditures.
- SCHEDULE C-2. Expenditures by Departments or Divisions.
- SCHEDULE C-3. Details of Expenses.
- SCHEDULE C-4. Details of Expenditures Which Increase the Assets of the University.
- SCHEDULE C-5. Details of Salaries—Instruction.
- SCHEDULE D. Balance Sheet.
- SCHEDULE E. Cash Receipts and Disbursements—Cash Balance.
- SCHEDULE F. Accounts Receivable.
- SCHEDULE G. Securities: Bonds, Stocks and Real Estate Mortgages.
- SCHEDULE H. Additions to Lands, Buildings and Equipment.
- SCHEDULE I. Educational Plant: Lands, Buildings and Equipment.
- SCHEDULE J. Endowment for General Purposes.
- SCHEDULE K. Endowment Funds for Designated Purposes.
- SCHEDULE L. State Aid—Special Appropriations.
- SCHEDULE M. Oxley Hall—Receipts and Disbursements—Supplemental.

CONSOLIDATED STATEMENT

INCOME AND EXPENDITURES.		<i>Schedule A</i>
Cash balance July 1, 1913.....		\$ 9,166.14
Total income for year, <i>Schedule B-I</i>	\$ 1,300,553 81	
Total expenditure for year, <i>Schedule C-I</i>	1,270,228 39	
Net surplus for year		30,325 42
Cash balance June 30, 1914.....		\$ 39,491 56
ASSETS AND LIABILITIES.		
Current assets at end of year, <i>Schedule D</i>	\$ 484,084 63	
Current liabilities at end of year, <i>Schedule D</i>		\$ 383,874 36
Investment assets at end of year, <i>Schedule D</i>	985,070 40	
Investment liabilities at end of year, <i>Schedule D</i>		985,070 40
Educational Plant—		
Value of lands, buildings and equipment,		
<i>Schedule D</i>	5,071,365 01	
Net investment or capital account....		5,171,575 28
	\$6,540,520 04	\$6,540,520 04

Schedule B-1

INCOME

Description	Items	Totals
INCOME FROM STUDENTS:		
Tuition, incidental and laboratory fees, <i>Schedule B-2</i>	\$109,408 00	
Special fees, degrees, etc., <i>Schedule B-2</i>	3,691 00	
For supplies, chemicals, laboratory material, etc.....	27,950 30	
For dormitories—Oxley Hall.....	16,825 79	
For locker rent.....	2,985 61	
		\$160,860 70
INCOME FROM INVESTMENTS OF:		
Endowments for general purposes, <i>Schedule J</i> (see below).....		
Endowments for designated purposes, <i>Schedule K</i> (see below).....		
Other investments (if any).....		
INCOME FROM GRANTS BY NATION, STATE AND SPECIAL TAXATION:		
State Aid: Income from endowments granted by State.....		
Income from endowments for general purposes.....	\$13,045 88	
Income from endowments for designated purposes.....	3,312 50	
Tax levy for current expenses (rate mills) .0635.....	378,088 17	
Appropriation for current expenses.....		
Tax levy for building or other special purposes.....		
Appropriations for buildings or other special purposes.....	575,205 16	
Federal Aid: Income from land grant act of July 2, 1862, (Paid by State).....	31,450 59	
Income from other land grants—Va. Mil. Lands (Paid by State).....	10,087 62	
Additional aid acts of Aug. 30, 1890, and March 4, 1907.....	50,000 00	
		1,061,189 92
GIFTS FOR CURRENT EXPENSES:		
For general purposes.....		
(Details).....		
For designated purposes.....		
(Details: such as gifts for immediate use on lands build- ings etc.).....		
Ohio Biological Survey.....	\$205 50	205 50
INCOME FROM OTHER SOURCES:		
(Details).....		
Industrial Arts.....	\$111 64	
Architecture Photo.....	413 42	
For interest on deposits.....	473 91	
For rents—buildings.....	860 00	
For sale of produce—dairy and farm.....	27,597 82	
For veterinary clinic.....	2,444 85	
For Virginia Military Lands.....	178 00	
For testing cows.....	10,061 18	
For Miscellaneous sales, old material, etc.....	1,837 36	
Agricultural Extension.....	39 35	
University Architect Fees.....	500 00	
Practical Potters Course.....	144 30	
		44,711 83
TEMPORARY ACCOUNTS:		
Refunds and reimbursements.....	\$11,500 22	
*Transfer to State Treasurer, May 19, 1914.....	22,085 64	
		33,585 86
Total income.....		\$1,300,553 81

* By act of Legislature, effective May 19, 1914, all University funds were transferred to the State Treasurer and the position of Ohio State University Treasurer was abolished. (Ohio Laws 104—page 178).

Schedule B-2

RECEIPTS FROM STUDENTS

	Arts	Agriculture	Education	Engineering	Law	Pharmacy	Veterinary Medicine	Summer School	Graduate	Normal	Total
Number of students registered.....	870	1265	154	819	174	83	158	704	116	.....	4343
Number of students paying fees.....	869	1145	154	819	171	79	148	698	61	.....	4144
Number of students admitted without payment	1	120	0	0	3	4	10	6	55	.....	199
TUITION, INCIDENTAL AND LABORATORY FEES:											
Net receipts from all students.....	\$22,859 50	\$33,385 50	\$4,180 00	\$21,093 00	\$10,251 00	\$2,525 00	\$4,607 00	\$6,892 00	\$1,615 00	.....	\$109,408 00
Total amount of fees paid from scholarships or fellowship funds..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total receipts on account of fees corresponding to first item, <i>Schedule B-1</i>.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Tuition fee paid per student.....	.....	.....	.....	.....	45 00	.....	.....	.....	.....	.....	.....
Incidental fee paid per student:	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1st semester	10 00	10 00	10 00	10 00	15 00	10 00	10 00	8 00	10 00	.....	.....
2nd semester	15 00	15 00	15 00	15 00	15 00	15 00	15 00	.....	15 00	.....	.....
Non-resident of State:	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1st semester	5 00	5 00	5 00	5 00	5 00	5 00	5 00	.....	.....	.....	.....
2nd semester	00 00	00 00	00 00	00 00	00 00	00 00	00 00	.....	.....	.....	.....
Incidental fee Lake Laboratory.....	.....	.....	.....	.....	.....	.....	.....	20 00	.....	.....	.....
SPECIAL FEES:	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Auditor's fees .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	33 00
Special examinations .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	362 00
Diplomas .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3,296 00
Total receipts on account of special fees corresponding to 2nd item, <i>Schedule B-1</i>.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3,691 00

CLASSIFIED EXPENDITURES

	Items	Totals
EXPENSE:		
Salaries	\$599,610 72	
*Employees and extra labor.....	63,789 91	
Material and general supplies.....	33,937 04	
Laboratory supplies	36,649 08	
Coal and gas.....	26,233 69	
Water	7,693 24	
Stationery and office supplies (including postage).....	11,526 52	
Printing, bulletins and catalogues.....	11,239 37	
Advertising	604 50	
Traveling expenses	7,744 84	
Oxley Hall—food supplies.....	6,847 41	
Repairs—equipment	6,502 28	
Freight and cartage.....	4,131 51	
Incidentals	16,048 94	
Feed—live stock	5,920 85	
Virginia Military Lands.....	2,574 94	
Cow testing (see receipts).....	10,123 63	
Trustees expenses	696 86	
Research		
Scholarships and student aid.....	2,968 50	
Total Expenses, Schedule C-2.....		\$853,992 83
EQUIPMENT:		
Apparatus	\$24,861 53	
Books	15,212 52	
Collections	240 63	
Furniture and Fixtures.....	13,189 35	
Horses, wagons and harness.....	2,067 92	
Live stock	2,072 07	
Machinery, tools and implements.....	22,013 34	
Tunnels, conduits and heating lines.....	23,815 19	
Total equipment, Schedule C-2.....		108,471 55
ADDITIONS TO BUILDINGS.....		11,981 94
CLUSTER LIGHTS		807 95
FARM LANDS		56,000 00
FIRE PROTECTION		3,766 88
NEW BUILDINGS, Schedule C-2.....		190,708 96
RAILWAY, Schedule C-2.....		3,512 59
SEWERS, Schedule C-2.....		
GRADING, PLANTING, ROADS, WALKS, ETC., (new walks)....		8,753 83
DEPOSIT—City of Columbus—Police Department.....		1 00
GRACE ACKLAND JANSEN, (Mrs.).....		3,760 00
TEMPORARY ACCOUNTS:		
Refunds and reimbursements.....		11,500 22
State Treasurer transfer, 5-19-1914.....		22,085 64
Total Expenditures		\$1,270,228 39

* Amount paid Students, \$18,169.00.

Schedule C-2

EXPENDITURES BY DEPARTMENTS OR DIVISIONS

Description	Expense Items	Totals	Equipment Items (Assets)	Totals	Total Cost of Department or Division	Totals
DEPARTMENTS: (Details Expense Items, Sch. C-3; Details equipment items, Sch. C-4)						
Agricultural Chemistry..	\$7,818 12		\$658 84		\$8,476 96	
Agronomy	8,433 87		806 06		9,239 93	
American History.....	6,310 80				6,310 80	
Anatomy and Physiology	8,097 21		479 95		8,577 16	
Animal Husbandry.....	26,066 88		2,966 46		29,033 34	
Architecture	5,768 88		280 82		6,049 70	
Art	4,235 91		181 85		4,417 76	
Astronomy	4,587 24		96 16		4,683 40	
Bacteriology	6,832 41		576 85		7,409 26	
Botany	9,641 09		1,227 81		10,868 90	
Ceramic Engineering....	9,092 24		467 17		9,559 41	
Chemistry	26,781 81		588 63		27,370 44	
Civil Engineering.....	14,614 78		581 74		15,196 52	
Dairying	26,158 89		3,291 29		29,450 18	
Dentistry	4 00				4 00	
Economics and Sociology	16,897 18		800 49		17,697 67	
Electrical Engineering...	9,986 27		1,686 77		11,673 04	
Engineering Drawing....	13,799 79		209 98		14,009 77	
English	22,800 95				22,800 95	
European History.....	7,576 54		8 25		7,584 79	
Forestry	5,156 88		163 49		5,320 37	
Geology	8,971 19		171 25		9,142 44	
German	13,487 08		82 55		13,569 63	
Greek	3,150 30		54 43		3,204 73	
History and Philosophy of Education.....	1,250 00		13 50		1,263 50	
Home Economics.....	12,777 16		700 76		13,477 92	
Horticulture	10,135 82		242 22		10,378 04	
Industrial Arts.....	14,608 45		1,267 61		15,876 06	
Latin	6,800 00		49 43		6,849 43	
Law	19,611 85		114 86		19,726 71	
Manual Training.....	1,885 97		173 34		2,059 31	
Mathematics	18,997 99		624 61		19,622 60	
Mechanical Engineering.	13,081 98		2,435 57		15,517 55	
Mechanics	5,227 24		39 70		5,266 94	
Medicine	4 00				4 00	
Metallurgy	5,191 44		617 85		5,809 29	
Meteorology	500 00				500 00	
Military Science.....	2,770 96		149 25		2,920 21	
Mine Engineering.....	4,894 88		623 16		5,518 04	
Mineralogy	1,901 66		385 35		2,287 01	
Pharmacy	6,416 65		153 53		6,570 18	
Philosophy	4,761 48		20 44		4,781 92	
Physical Education.....	10,208 94		548 99		10,757 93	
Physics	17,262 44		731 05		17,993 49	
Political Science.....	4,313 69				4,313 69	
Poultry			123 87		123 87	
Principles and Practice of Education.....	1,820 00				1,820 00	
Psychology	8,201 80		469 32		8,671 12	
Romance Languages....	13,875 80		23 80		13,899 60	
Rural Economics.....	16,416 16		1,495 05		17,911 21	
School Administration...	4,833 42		54 08		4,887 50	
Veterinary Medicine....	21,783 12		2,828 35		24,611 47	
Zoology and Entomology.	11,230 46		945 50		12,175 96	
Total Departments....		\$506,585 04		\$29,565 23		\$536,150 27
Summer Schools.....	18,036 34		9 50		18,045 84	
Winter Course Lectures.	3,274 86				3,274 86	
Total Summer and Winter Courses ...		\$21,311 20		\$9 50		\$21,320 70
Forward		\$527,896 24		\$29,574 73		\$557,470 97

Schedule C-2—Continued

EXPENDITURES BY DEPARTMENTS OR DIVISIONS—Continued

Description	Expense Items	Totals	Equip-ment Items (Assets)	Totals	Total Cost of Department or Division	Totals
Brought forward.....		\$527,896 24		\$29,574 73		\$557,470 97
LIBRARY	\$21,158 13		\$18,643 34		\$39,801 47	
Total Library.....		\$21,158 13		\$18,643 34		\$39,801 47
SPECIAL FUNDS: (Details expense items in Sch. C-3; Details equipment items in Sch. C-4)						
Winter Course in Highway Eng.....	\$984 97				\$984 97	
University Architect.....	4,787 67		\$16 31		4,803 88	
Architecture Photo.....	459 27				459 27	
Official Milk Testing....	1,142 62				1,142 62	
Practical Potters Course..	210 80				210 80	
High School Visitors....	4,714 00				4,714 00	
Agricultural Extension..	32,850 21		317 52		33,167 73	
Reimbursement Account..	152 59				152 59	
Ohio Biological Survey..	285 43				285 43	
Total Special Funds...		\$45,486 96		\$333 83		\$45,820 79
ADMINISTRATION AND GENERAL ACCOUNTS:						
Executive Offices.....	\$49,280 68		\$2,061 33		\$51,361 91	
(Details expense items in Sch. C-3; Details equipment items in Sch. C-4)						
Store Room.....	24,772 73		5,399 81		30,172 54	
(Details expense items in Sch. C-3; Details equipment items in Sch. C-4)						
General Accounts	24,770 64		2,185 65		26,956 29	
(Details expense items in Sch. C-3; Details equipment items in Sch. C-4)						
Commencement Exercises (Details Schedule C-3)	7,276 14				7,276 14	
Trustees' expenses.....	695 86				695 86	
Advertising	604 50				604 50	
Water	7,693 24				7,693 24	
Total—Adm. and Gen'l.		\$115,063 69		\$9,666 79		\$124,760 48
OPERATION, MAINTENANCE AND EQUIPMENT OF PLANT:						
Salaries: Janitors, caretakers, etc.....	\$26,599 16				\$26,599 16	
Salaries: Supt. Bldg., Engineers, Mechanicians, etc.....	19,825 00				19,825 00	
Coal and Gas.....	25,233 69				25,233 69	
Heat, power & light plant (Details expense items in Sch. C-3; Details equipment items in Sch. C-4)	16,661 80		\$42,929 82		59,591 62	
Roads and Grounds.....	4,736 17		1,788 56		6,524 73	
(Details expense items in Sch. C-3; Details equipment items in Sch. C-4)						
Repairs, Building.....	21,778 72				21,778 72	
(Current) (Details Schedule C-3)						
Total Operation, Maintenance and Equipment		\$114,884 54		\$44,718 88		\$159,602 92
Amt. forward.....		\$824,519 56		\$109,987 07		\$927,456 63

Schedule C-2—Concluded

EXPENDITURES BY DEPARTMENTS OR DIVISIONS—Concluded

Description	Expense Items	Totals	Equip- ment Items (Assets)	Totals	Total Cost of Depart- ment or Division	Totals
Total brought forward.		\$824,519 56		\$102,987 07		\$927,456 63
DORMITORIES AND DINING HALLS: (Details expense items in Sch. C-3; Details equipment items in Sch. C-4)						
Oxley Hall (see Receipts)	\$13,706 15		\$534 48		\$14,240 63	
Total Dormitories, etc.		\$13,706 15		\$534 48		\$14,240 63
MISCELLANEOUS EX- PENSES:						
Virginia Military Lands.	\$2,574 94				\$2,574 94	
Cow testing (see Re- ceipts)	10,123 68				10,123 68	
Scholarships and Stu- dent Aid	2,968 50				2,968 50	
Total Misc. Expenses.		\$15,667 12				\$15,667 12
Total Ex. and Equip..		\$853,892 83		\$103,471 55		\$957,364 38
NEW BUILDINGS: (Details in Schedule C-4)						
Contracts			\$187,677 19			
Architects			951 48			
Elevator			200 00			
Printing and Advertising			52 80			
Freight, extra labor and material			1,822 49			
Total expenditures for new buildings						\$190,703 96
ADDITIONS TO BUILD- INGS (Details in Schedule C-4)			\$11,981 94			
NEW LANDS:						
Farm Lands (132 4-100 acres)			56,000 00			
CLUSTER LIGHTS:						
Freight, labor, material and tools			807 95			
FIRE PROTECTION:						
Freight, labor, material and tools			3,766 88			
RAILWAY:						
Freight, labor and ma- terial			3,512 59			
GRADING, PLANTING, ROADS, WALKS, ETC.:						
Labor and Material			8,753 83			
Total						\$84,823 19
DEPOSIT—City of Colum- bus—Police Department						\$1 00
Grace Ackland Jansen...						\$3,750 00
TEMPORARY AC- COUNTS:						
Refunds and reimburse- ments						11,500 22
State Treasurer						22,085 64
Total Expenditures.... Schedule C-1.						\$1,270,228 39

Schedule C-3

DEPARTMENTAL EXPENSES

Department or Division.	Salaries Instruction	Salaries Superintendent and Others	Employees and Extra Labor	Stationery and Office Supplies	Incidentals	Laboratory Supplies	Material Supplies and General	Repairs of Equipment	Freight and Cartage	Feed	Research	Total Expenses
Agricultural Chemistry	\$7,000 00		\$532 02	\$83 53	\$19 60	\$165 96	\$16 50	\$11 96	\$8 56			\$7,518 12
Agromony	6,950 00	\$800 00	543 47	54 93	44 13	111 94	70 02	19 98	59 50			8,438 87
American History	6,300 00			10 80								6,310 80
Anatomy and Physiology	8,000 00		8 50	4 74		23 53	68 07		2 37	\$5,046 14		8,097 21
Animal Husbandry	6,500 00	1,200 00	6,677 10	176 32	1,128 75	145 50	982 17	173 87	466 53			26,066 88
Architecture	6,700 00		5 60	22 25	4 50	15 92	22 35	7 06	6 52			5,768 88
Art	4,100 00		60 15	12 25			45 96		1 64			4,236 91
Astronomy	4,450 00		18 74	13 74	4 54	172 41	46 58	50	3 14			4,537 24
Bacteriology	6,150 00		5 85	16 53	10 90	205 35	11 21	9 75	6 76			6,352 41
Botany	6,150 00		8 04	22 93	26 69	348 35	8 28	1 60	19 30			9,641 09
Ceramic Engineering	7,750 00	600 00	88 74	41 60	32 97	82 40	163 34	64 70	83 57			9,062 24
Chemistry	24,410 00	600 00	792 73	172 10	107 07	1,070 05	83 42	31 98	31 54			26,761 81
Civil Engineering	14,200 00		71 73	94 06	27 23	98 92	82 42	66 23	24 14			14,614 78
Dairying	6,700 00		4,572 79	202 60	116 43	13,624 66	601 17	133 43	207 76			26,158 89
Dentistry				4 00								4 00
Economics and Sociology	16,745 00		58 25	73 91	10 06		3 59	1 50	4 86			16,897 16
Electrical Engineering	7,400 00	1,500 00	72 99	57 48	70 00	108 31	536 26	102 55	89 69			9,696 27
Engineering Drawing	13,600 00			188 28	11 21		43 72	2 40	4 26			13,799 79
English	22,750 00		31 60	31 95	18 95				4 40			22,800 95
European History	7,550 00			23 39	3 15							7,576 54
Forestry	4,900 00		118 47	28 02	3 15	45 82	43 91		18 60			5,156 83
Geology	8,700 00		83 81	10 20	72 78	24 51	68 19		11 70			8,971 19
German	13,450 00			30 78	4 25		90		1 10			13,467 08
Greek	3,150 00			30 80								3,150 80
History and Philosophy of Education	1,250 00											1,250 00
Home Economics	10,110 00		138 05	109 32	60 06	1,266 74	645 57	17 44	4 98			12,777 16
Horticulture	6,850 00	375 00	2,444 43	136 59	6 82	214 72	334 02	14 70	35 64			10,135 32
Industrial Arts	10,800 00		833 94	37 06	23 55	2,566 94	75 75	71 59	154 92			14,668 45
Latin	6,800 00											6,800 00
Law	19,400 00		39 00	33 77	25 76		112 07		76			19,611 26
Manual Training	1,800 00			21 22		47 76	1 22	1 18	14 64			1,885 97
Mathematics	18,950 00		5 10	26 84	2 55			15	11 65			18,997 99
Mechanical Engineering	9,000 00	1,860 00	367 20	149 96	129 83	92 92	1,179 78	227 79	134 50			13,051 96
Mechanics	5,200 00		8 18	9 55		9 00	51					5,227 24
Medicine				4 00								4 00
Metalurgy	4,350 00		416 48	26 12	2 63	182 53	117 83	80 25	57 21			5,191 44

	500 00	1,935 00	19 14	16 09	159 59	148 33	16 70	25 50	500 00
Meteorology	450 00		19 14	16 09	159 59	148 33	16 70	25 50	2,770 95
Military Science and Tac- tics	4,550 00		75 54	21 24	169 98	44 29	3 53	10 47	4,894 88
Mine Engineering	1,800 00		3 90	2 18	25	38 86	20	8 27	1,901 66
Mineralogy	6,200 00		59 77	22 58	36 18	30 92	10 41	1 16	6,416 65
Pharmacy	4,750 00			1 48	500 83	265 80	78 25	18 78	4,751 48
Philosophy	8,050 00	360 00	813 81	117 42	500 83	265 80	78 25	18 78	10,208 94
Physical Education	15,400 00	1,200 00	153 37	41 86	9 98	125 08	31 60	35 35	17,269 44
Physics	16,000 00		9 90	3 79					4,813 69
Political Science	4,900 00								1,820 00
Principles and Practice of Education	1,800 00				20 00		5 50	16 82	3,876 80
Psychology	7,000 00		9 00	18 77	26 01	139 80			10,418 18
Rhetoric	13,800 00			32 05	1,412 19	1,545 06	398 79	92 55	16,618 18
Romance Languages	8,000 97			882 83		2 44			4,838 42
Social Economics	4,700 00	2,583 30	6,694 76	86 08	2 44	28 90			21,783 12
School Administration . . .	17,000 00	500 00	556 63	162 17	271 47	622 81	132 64	87 79	11,290 46
Veterinary Medicine	4,750 00			53 06	12 48	6 98		26 86	\$506,588 04
Zoology and Entomology . .	11,050 00								
Total Department Exp . . .	\$419,019 97	\$13,263 30	\$28,452 18	\$2,770 36	\$4,591 72	\$22,872 35	\$1,765 60	\$1,789 86	\$5,920 85

Schedule C-3—Concluded

DEPARTMENTAL EXPENSES—Concluded

Department or Division.	Salaries	Salaries Assistants, Clerks and Stenographers	Employees and Extra Labor	Stationery and Office Supplies	Incidentals	Laboratory Supplies	Material and General Supplies	Repairs of Equipment	Freight and Cartage	Travelling Expenses	Printing, Bulletins and Catalogues	Totals
SPECIAL INSTRUCTION:												
Summer Schools	\$17,188 00	\$300 00	\$132 84	\$48 91	\$204 77	\$68 08	\$33 98		\$32 26		\$27 50	\$18,086 34
Winter Course Lectures	1,902 00		368 66	8 25	174 15	340 30	114 59		17 97		102 08	3,274 86
Total Special Instruction												
Dept. Expense	\$19,090 00	\$300 00	\$501 49	\$57 16	\$378 92	\$408 47	\$148 57		\$50 23	\$246 18	\$180 18	\$21,311 20
LIBRARY	\$2,000 00	\$12,365 00	\$3,082 27	\$694 20	\$258 29		\$187 67	\$1,520 45	\$441 25			\$21,158 13
SPECIAL FUNDS:												
University Architect	\$2,300 00	\$2,000 00	\$317 66	\$143 04	\$3 15		\$17 37		\$1 86			\$4,787 57
Architecture Photo			216 23	23	46	\$241 65			70			469 27
Practical Pottery Course	125 00		4 30							\$81 00		210 30
High School Visitors	4,800 00		565 96	16 53	35				40	388 20		4,714 00
Agricultural Extension	17,844 57	3,487 50	2,001 65	2,001 65	321 68		327 50	\$57 31	193 50	4,667 47	\$8 62	\$2,850 21
Ohio Biological Survey			80 70	33 46	1 70		6 94		70	79 85	3,063 07	286 43
Official Milk Testing		540 00	221 90	107 41	155 72		15 20		21 74	50 75	82 06	1,143 62
Reimbursement Account	150 00		286 13	13 80	12 90		19 20		9 01	302 59	141 84	984 97
Winter Course in Highway Eng.			57 85				92 74		2 00			152 59
Total Special Funds	\$24,719 57	\$6,027 50	\$1,750 62	\$2,315 62	\$500 96	\$241 65	\$478 95	\$57 31	\$529 41	\$5,599 86	\$3,265 51	\$45,486 96
EXECUTIVE OFFICES:												
President	\$7,000 00	\$2,111 01	\$0 50	\$279 85	\$175 81			\$62 80	\$3 38		\$42 50	\$9,075 85
Secretary	4,624 92	9,449 58	148 13	769 75	327 67			21 05	20 96			15,088 84
Registrar	1,700 00	2,620 00	468 12	1,370 00	39 35				7 92	\$7 50	321 78	6,671 85
Dean of Women	2,000 00		171 62	40 13	18 00		\$17 15				287 86	2,254 98
Editor and Board of Publication	1,800 00	916 67	1,489 03	770 09	35 32		3 20	1 74	109 88	3 95	5,965 90	11,158 48
Entrance Board	2,000 00	720 00	3 43	225 71	31 06			2 00	2 47		22 25	3,009 92
Offices—Graduate School, etc.	380 00		31 85	287 98	79 04			6 18	2 36		80 65	828 06
Total Executive Offices	\$19,484 92	\$16,017 26	\$2,312 06	\$3,723 51	\$700 85		\$20 35	\$63 77	\$207 35	\$11 95	\$6,708 44	\$49,290 58
STORE ROOM	\$1,500 00	\$3,655 00	\$2,429 26	\$768 91	\$134 13	\$13,136 56	\$2,728 35	\$188 22	\$242 28			\$24,772 73

GENERAL EXPENSE AC- COUNT	1,641 66	12,352 38	1,516 46	1,084 74	3,444 33		2,351 38	122 42	136 68	\$1,887 35	\$253 24	24,770 64
COMMENCEMENT EXER- CISES			624 25	71 25	5,394 31		399 59		34 74		852 00	7,276 14
HEAT, POWER AND LIGHT		46,424 16	6,544 37	6 13	312 14		6,856 83	2,533 49	408 84			63,085 96
ROADS AND GROUNDS...			3,806 99		18		773 69	28 03	136 38			4,786 17
REPAIRS—Bldgs., Current..			10,461 06		28 50		11,083 91	162 85	102 38			21,778 72
OXLEY HALL	1,300 00	550 00	3,718 24	34 64	304 61	Food Supplies 6,847 41	918 92	20 24	12 09			13,796 15

Schedule C-4

LANDS, BUILDINGS AND EQUIPMENT.
EQUIPMENT

Department or Division.	Apparatus.	Books.	Collections.	Furniture and Fixtures.	Horses, Wagons and Harness.	Live Stock.	Machinery, Tools and Implements.	Totals.
Agricultural Chemistry	\$567 07			\$91 77			\$33 09	\$658 84
Agromony	500 57			332 40				866 06
American History	479 95			11 98			23 42	479 95
Anatomy and Physiology	68 99			86 08				2,966 46
Animal Husbandry	194 74			18 00				280 82
Architecture	67 35	\$46 00		29 08				131 35
Art	57 35						9 78	96 16
Astronomy	575 41			64 96			94	576 35
Bacteriology	1,142 75	18 35		5 00			1 25	1,227 31
Botany	446 53	6 25		27 61			9 39	467 17
Ceramic Engineering	506 00			187 07			4 92	588 53
Chemistry	394 67			431 26				581 74
Civil Engineering	2,855 26			287 47			4 77	3,291 29
Dairying	13 02			6 83				300 49
Economics and Sociology	1,595 15			15 50				1,636 77
Electrical Engineering	175 76	3 26					34 79	1,209 98
Engineering Drawing							15 46	
English								
European History	3 25							3 25
Forestry	157 24	6 00	69 00	25				163 49
Geology	102 25							171 25
German	23 25			59 30				82 55
Greek		6 13		48 30				54 43

		\$90	\$69	\$2,668	\$863	\$1,998	\$186	\$20,445
History and Philosophy of Education..	13 50							
Home Economics	428 88							
Horticulture	138 12							
Industrial Arts	1,266 90							
Latin	9 25	5 68						
Law								
Manual Training	117 09							
Mathematics	443 38							
Mechanical Engineering	2,184 78							
Mechanics	89 70							
Amount forward.....	\$14,568 16*	\$91 67	\$69 00	\$2,668 24	\$863 50	\$1,998 57	\$186 50	\$20,445 64

LANDS, BUILDINGS AND EQUIPMENT.
EQUIPMENT—CONTINUED.

Schedule C-4—Continued

Department or Division.	Apparatus.	Books.	Collections.	Furniture and Fixtures.	Horses, Wagons and Harness.	Live Stock.	Machinery, Tools and Implements.	Totals.
Brought forward.....	\$14,568 16	\$91 67	\$69 00	\$2,668 24	\$863 50	\$1,998 57	\$186 50	\$20,445 64
Metallurgy	614 35			3 50				617 85
Meteorology								149 25
Military Science and Tactics	35 40			113 85				623 16
Mine Engineering	551 56			71 60				335 35
Mineralogy	334 82		1 03					153 53
Pharmacy	35 78			117 75				20 44
Philosophy	371 07	12 94		7 50			11 62	548 99
Physical Education	718 55			166 30				731 05
Physics				12 50				
Political Science						73 50	1 50	123 87
Poultry	48 87							
Principles and Practice of Education								
Psychology	302 26			50			166 56	409 32
Romance Languages	23 80							23 80
Rural Economics	74 91			588 48	514 90		316 76	1,495 05
School Administration				54 08				54 08
Veterinary Medicine	1,646 53		159 10	273 98	689 52		59 22	2,828 35
Zoology and Entomology	765 05		11 50	156 70			12 25	945 50
Total Department Equipment.....	\$20,090 61	*\$104 61	\$240 63	\$4,234 98	\$2,067 92	\$2,072 07	\$754 41	\$29,565 23

*Added to Library Equipment.....	7 50					2 00				9 50
Summer Schools										
Winter Course Lectures.....										
Total Special Dept. Equipment....	7 50					2 00				9 50

LANDS, BUILDINGS AND EQUIPMENT
EQUIPMENT — CONTINUED.

Schedule C-4—Continued

DEPARTMENT OR DIVISION	Apparatus	Books	Collections	Furniture and Fix- tures	Horses, Wagons and Harness	Live Stock	Machinery, Tools and Implements	Tunnels, Conduits and Heating Lines	Totals
Brought forward	\$20,098 11	*\$104 61 15,091 44	\$240 63	\$4,236 98 3,551 90	\$2,067 92	\$2,072 07	\$754 41		\$29,574 73 18,643 94
SPECIAL FUNDS									
High School Visitors		7 40		130 63 16 31					317 52 16 31
Agricultural Extension	179 49								
University Architect									
Total Special Funds	\$179 49	\$15,098 84		\$3,698 84					\$18,977 17
ADMINISTRATION AND GEN- ERAL:									
Executive Offices:									
President				147 49					147 49
Secretary				549 10					549 10
Registrar				236 75					236 75
Editor — Bd. of Pub- lication				128 44			25 00		153 44
Entrance Board				170 57					170 57
Dean of Women				777 94					777 94
Graduate School, etc.				46 04					46 04

Store room	4,894 93	9.07	788 76			227 05		5,399 81
General	189 00		1,812 28			184 97		2,185 65
Total Administration and General	\$4,583 93	\$9 07	\$4,637 37			\$436 42		\$9,666 79
PLANT EQUIPMENT:								
Heat, Power and Light Plant			81 68			19,032 95	23,815 19	42,929 82
Roads and Grounds						1,788 56		1,788 56
Total Plant and Equipment			\$81 68			\$20,821 51	\$23,815 19	\$44,718 98
DORMITORIES AND DINING HALL:								
Oxley Hall			534 48					534 48
Total expenditures for Equipment, Schedule C-2	\$24,861 53	\$15,212 52	\$13,189 35	\$2,067 92	\$2,072 07	\$22,012 34	\$23,815 19	\$103,471 55

* Added to Library Equipment.

LANDS, BUILDINGS AND EQUIPMENT

LANDS.

DESCRIPTION	Items	Totals
Cluster Lights	\$807 95	
Fire protection	3,766 88	
Farm Lands	56,000 00	
Sewers		
Railway to grounds.....	3,512 59	
Grading, planting, roads, walks, etc.....	8,753 83	
Additions to buildings.....	11,981 94	
Physics building	\$11,263 42	
Lord Hall	23 52	
Veterinary Clinic building.....	450 00	
Storage building	245 00	
Total expenditures for land and improvements, Schedule C-2		\$84,823 19
NEW BUILDINGS		
Freight and kiln room.....	\$67 24	
Horticultural and Forestry building.....	89,221 73	
Botany and Zoology building.....	85,367 23	
Store Room and Receiving Department building.....	9,260 26	
Library building	6,787 50	
Total expenditures for new buildings for year, Schedule C-2		\$190,703 96

DEPARTMENTAL SALARIES—INSTRUCTION

OHIO STATE UNIVERSITY

275

College or Department	Professors	Emeritus Professors	Associate Professors	Assistant Professors	Instructors	Assistants	Fellows	Student Assistants	Lecturers	Totals
Agricultural Chemistry	No. 1 Amt. \$3,000 00		No. 1 Amt. \$1,900 00		No. 1 Amt. \$1,000 00	(1) 4 1,550 00	4 \$1,200 00			\$7,000 00
Agronomy	No. 2 Amt. 4,200 00		(2) 1 1,200 00							6,950 00
American History	No. 2 Amt. 5,000 00				No. 1 Amt. 1,000 00	(5) 6 1,150 00		2 300 00		6,300 00
Anatomy and Physiology	No. 1 Amt. 2,750 00		No. 1 Amt. 1,700 00	1 1,400 00	No. 1 Amt. 1,000 00					8,000 00
Animal Husbandry	(2) 1 Amt. 2,500 00		2 3,500 00		No. 2 Amt. 3,000 00	1 1,000 00				9,500 00
Architecture	No. 2 Amt. 3,200 00				No. 2 Amt. 2,500 00					5,700 00
Art	No. 1 Amt. 400 00				No. 3 Amt. 3,700 00					4,100 00
Astronomy	No. 1 Amt. 2,750 00		No. 1 Amt. 1,700 00							4,450 00
Bacteriology	No. 1 Amt. 2,750 00			1 1,700 00	No. 1 Amt. 500 00	1 600 00	1 300 00	1 300 00		6,150 00
Botany	No. 1 Amt. 2,250 00			2 3,200 00	No. 2 Amt. 2,700 00		1 300 00	2 300 00		8,750 00
Ceramic Engineering	No. 2 Amt. 6,250 00			1 1,500 00	No. 1 Amt. 1,500 00	6 4,200 00	† 13 3,600 00			7,750 00
Chemistry	No. 5 Amt. 12,500 00	1 \$1,250 00		1 1,500 00	No. 1 Amt. 1,900 00	1 600 00				24,410 00
Civil Engineering	No. 3 Amt. 7,750 00			2 3,200 00	No. 2 Amt. 2,400 00	1 750 00			2 100 00	14,200 00
Dairying	No. 1 Amt. 2,500 00			1 1,700 00	No. 1 Amt. 2,500 00					6,700 00
Economics and Sociology	No. 2 Amt. 8,000 00			4 6,300 00	No. 2 Amt. 1,110 00	1 600 00	1 300 00	2 435 00		16,745 00
Electrical Engineering	No. 1 Amt. 4,500 00				No. 2 Amt. 2,200 00	1 700 00				7,400 00
Engineering Drawing	No. 1 Amt. 3,000 00			1 1,700 00	No. 1 Amt. 8,600 00	1 300 00				13,600 00
English	(2) 5 Amt. 11,500 00			4 6,000 00	No. 1 Amt. 1,000 00	1 600 00	12 3,600 00			22,750 00

DEPARTMENTAL SALARIES—INSTRUCTION—Concluded

Schedule C-5—Concluded

College or Department.	Professors	Emeritus Professors	Associate Professors	Assistant Professors	Instructors	Assistants	Fellows	Student Assistants	Lecturers	Totals
European History	No. 2 Amt. 6,550 00				1 1,000 00					7,550 00
Forestry	No. 1 Amt. 2,500 00			2 2,400 00						4,900 00
Geology	No. 2 Amt. 5,060 00			1 1,500 00	2 1,800 00		2 300 00			8,700 00
German	No. 2 Amt. 4,750 00			4 6,000 00	2 2,200 00	1 500 00				13,450 00
Greek	No. 2 Amt. 2,950 00				1 200 00					3,150 00
History and Philosophy of Education	No. 2 Amt. 860 00				1 400 00					1,260 00
Home Economics	No. 1 Amt. 2,100 00			1 1,500 00	3 3,510 00	4 3,000 00				10,110 00
Horticulture	No. 1 Amt. 2,750 00		2 3,600 00			1 600 00				6,950 00
Industrial Arts	No. 1 Amt. 2,200 00			1 1,600 00	3 3,650 00	4 3,360 00				10,800 00
Law	No. (2) Amt. 15,600 00			2 3,800 00						19,400 00
Latin	No. (2) Amt. 6,200 00					1 600 00				6,800 00
Manual Training	No. 1 Amt. 1,800 00			1 1,800 00						1,800 00
Mathematics	No. 5 Amt. 10,750 00		1 1,600 00	4 5,900 00		1 700 00		1 300 00		18,950 00
Mechanical Engineering	No. 2 Amt. 5,350 00		1 1,700 00		1 1,000 00	1 750 00				9,000 00
Mechanics	No. 2 Amt. 4,900 00							1 300 00		5,200 00
Metallurgy	No. (3) Amt. 3,850 00				1 500 00					4,350 00
Meteorology	No. 1 Amt. 500 00									500 00
Military Science and Tactics	No. 1 Amt. 450 00									450 00

[illegible]

† One part time. (1) Two part time. (2) One absent on leave 1913-1914. (3) One absent on leave, second semester. (4) Three part time. (5) Four part time. * Part time.

BALANCE
(FOR THE END
June 30,

CURRENT ASSETS.

Cash in banks and on hand for current expenses, <i>Schedule E</i>	\$	39,491 56	
Accounts receivable, <i>Schedule F</i>		454 00	
Auditor of State—Special appropriations, <i>Schedule L</i>	383,874 36		
Store Room (Supplies per inventory)	60,264 71		
Total current assets			\$484,084 63

2. INVESTMENT ASSETS, AT END OF YEAR

Securities—State Treasurer (Irreducible debt of State) <i>Schedule G</i>	\$	985,070 40	
Total investment assets			\$ 985,070 40

EDUCATIONAL PLANT—LANDS, BUILDINGS AND EQUIPMENT.

Balance at beginning of year, <i>Schedule I</i>	\$4,708,609 05		
Additions during year, <i>Schedule H</i>	362,755 96		
Total Educational Plant			\$5,071,365 01
Total assets			\$6,540,520 04

Schedule D

SHEET
OF THE YEAR)
1914.

1. CURRENT LIABILITIES.

Special State Appropriations, <i>Schedule L</i>	\$ 383,874 36
Other current liabilities	
Total current liabilities	<u>\$383,874 36</u>

2. ENDOWMENT FUNDS, ETC., AT END OF YEAR.

Endowment Capital Accounts —	
Funds for general purposes, invested, <i>Schedule J</i> ..	\$914,710 01
Funds for designated purposes, invested,	
<i>Schedule K</i>	70,860 39
Total liabilities, endowment funds	<u>\$985,070 40</u>

3. EDUCATIONAL PLANT, DEBT AND CAPITAL ACCOUNT.

Investment of capital account.....	\$5,171,575 28
Total Educational Plant	<u>\$5,171,575 28</u>
Total Liabilities	<u>\$6,540,520 04</u>

Schedule E

CASH RECEIPTS AND DISBURSEMENTS.

FOR ALL PURPOSES DURING THE YEAR.

Total Cash Receipts.....	\$1,813,393 86
Total Cash Disbursements.....	1,283,068 44
Excess of Receipts	\$30,325 42
Cash Balance at beginning of year.....	9,166 14
Cash Balance at end of year.....	\$ 39,491 56

CASH BALANCE.

AT END OF YEAR.

Cash Deposit at Banks:

(Details as to cash for immediate use and for investment).

The State Treasurer for general purposes..... \$39,491 56

Cash at Offices:

(Details as to cash for immediate use and for investment).

Cash Balance as above..... \$39,491 56

Schedule F

ACCOUNTS RECEIVABLE.

MISCELLANEOUS:

(Details)

Columbus Water Works—Meter Deposits

\$ 450 00

Columbus Police Department (Deposit)

4 00

TOTAL, Schedule D

\$ 454 00

Schedule G

SECURITIES, BONDS, STOCKS AND REAL ESTATE MORTGAGES

Description	Balance at Beginning of Year	Purchase or Other Additions during Year	Total	Sales during Year	Balance at End of Year	Interest Received	Added to Investments during Year
INVESTMENTS:							
Sec. 4105-15 R. S. Ir-reducible debt of State	\$972,230 35	\$12,840 05	\$985,070 40		\$985,070 40	\$58,747 62	\$851 03
Totals	\$972,230 35	\$12,840 05	\$985,070 40		\$985,070 40	\$58,747 62	\$851 03
Total Schedule D...					\$985,070 40		

Schedule H

ADDITIONS TO LANDS, BUILDINGS AND EQUIPMENT.

ADDITION TO LANDS:

(Details, Schedule I.)	\$ 56,000 00
Sewers	
Cluster Lights	807 95
Railway to Grounds.....	3,512 59
Fire Protection	3,766 88
Grading, Planting, Roads, Walks, etc.....	8,763 83

ADDITIONS TO BUILDINGS:

(Details, Schedule I.)	188,689 90
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EQUIPMENT:

(Details, Schedule I.)	101,228 81
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Total during year.....	\$ 362,755 96
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Schedule I

EDUCATIONAL PLANT: LANDS, BUILDINGS AND EQUIPMENT

ACCOUNT	Balance at Beginning of Year—Cost	Expended During Year —Cost	Gifts and Additions During Year—Value	Total	Sales and Other Dis- positions During Year—Cost	Balance at End of Year—Cost
UNIVERSITY SITE, CAMPUS, GROUNDS, ETC.						
331 11-100 acres, purchased 1871, cost.....	\$117,508 00					
12 14-100 acres, purchased 1879, cost.....	607 00					
93 59-100 acres, purchased 1906, cost.....	38,139 11					
14 acres, purchased 1911, cost.....	7,500 00					
132 4-100 acres, purchased 1914, cost.....	56,000 00					
582 89-100 acres, cost.....	\$220,754 11					
Appraised value, 1900, (\$1,500,000.00)	\$1,547,500 00	\$56,000 00		\$1,603,500 00		\$1,603,500 00
CLUSTER LIGHTS¹	804 07	807 95		1,612 02		1,612 02
FIRE PROTECTION¹	4,523 48	3,766 88		8,290 36		8,290 36
GRADING, PLANTING, ROADS, WALKS, ETC.	48,000 00	8,753 83		56,753 83		56,753 83
SEWERS	17,681 00			17,681 00		17,681 00
RAILWAY	46,102 16	3,512 59		49,614 75		49,614 75
BUILDINGS:						
Store Room and Receiving Department.....	1,935 12	9,260 26		11,195 38		11,195 38
Botany and Zoology.....	7,931 23	85,367 23		93,298 46		93,298 46
University Hall	139,625 00			139,625 00		139,625 00

Dormitory, Small (Boys).....	5,000 00			5,000 00		5,000 00
Repair Shops	10,000 00			10,000 00		10,000 00
Botanical Building	15,000 00			15,000 00		15,000 00
Horticultural Building ^a	7,500 00			7,500 00		7,500 00
Horticulture and Forestry Building.....	89,221 73			89,221 73		89,221 73
English Recitation Building ^a	6,500 00			6,500 00		6,500 00
Tool Shed	1,000 00			1,000 00		1,000 00
Hayes Hall	55,000 00			55,000 00		55,000 00
Residences (Five).....	27,000 00			27,000 00		27,000 00
Farm Buildings (Five).....	5,000 00			5,000 00		5,000 00
Orton Hall	100,000 00			100,000 00		100,000 00
Townshend Hall	110,000 00			110,000 00		110,000 00
Armory and Gymnasium.....	115,000 00			115,000 00		115,000 00
Biological Building	55,000 00			55,000 00		55,000 00
Emerson McMillen Observatory.....	16,000 00			16,000 00		16,000 00
Boiler House	47,937 17			47,937 17		47,937 17
Power House	24,290 02			24,290 02		24,290 02
Brown Hall	75,000 00			75,000 00		75,000 00
Page Hall (Law).....	100,000 00			100,000 00		100,000 00
Veterinary Laboratory	35,000 00			35,000 00		35,000 00
Physics Building	80,000 00		11,263 42	91,263 42		91,263 42
Chemistry Building	110,367 00		23 52	110,367 00		110,367 00
Lord Hall	85,000 00			85,023 52		85,023 52
Engineering Laboratory	75,000 00			75,000 00		75,000 00
Freight and Kiln Room.....			67 24	67 24		67 24
Horse Building	25,000 00			25,000 00		25,000 00
Cattle Building	35,000 00			35,000 00		35,000 00
Judging Pavilion	20,000 00			20,000 00		20,000 00
Oxley Hall (Girls' Dormitory).....	66,490 85			66,490 85		66,490 85
Veterinary Clinic Building.....	87,780 06			88,230 06		88,230 06
Students' Building (Club House).....	78,243 50		450 00	78,243 50		78,243 50
Lake Laboratory	2,500 00			2,500 00		2,500 00
Library Building	290,587 73		6,787 50	297,325 23		297,325 23
Poultry Building	5,199 51			5,199 51		5,199 51
Storage Building	10,000 00		245 00	10,245 00		10,245 00
Total Buildings	\$1,930,837 19	\$202,685 90		\$2,133,523 09	\$14,000 00	\$2,119,523 09
Total Lands, Buildings, etc.....	\$3,595,447 90	\$275,527 15		\$3,870,975 05	\$14,000 00	\$3,856,975 05

(1) Previously included in O. and M. expense. (2) Razed. (3) Destroyed by fire.

Schedule I—Continued

EDUCATIONAL PLANT: LANDS, BUILDINGS AND EQUIPMENT—Continued.

Account	Balance at Beginning of Year—Cost	Expended During Year —Cost	Gifts and Additions During Year—Value	Total	Sales and Other Dis- positions During Year—Cost	Balance at End of Year—Cost
EQUIPMENT: DEPARTMENTS—						
Agricultural Chemistry	\$7,857 36	\$658 84		\$8,516 20		\$8,516 20
Agronomy	6,974 28	866 06		7,840 34		7,840 34
American History	7,561 33			7,561 33		7,561 33
Anatomy and Physiology	7,251 60	479 95		7,731 55		7,731 55
Animal Husbandry	26,714 24	2,966 46		29,711 70		29,711 70
Architecture	7,223 74	280 82	31 00	7,504 56		7,504 56
Art	1,654 89	85 35		1,740 24		1,740 24
Astronomy	17,587 17	96 16		17,683 33		17,683 33
Bacteriology	5,923 81	576 35		6,500 16		6,500 16
Botany	11,977 03	1,208 96		13,185 99		13,185 99
Ceramic Engineering	13,538 64	460 92	200 00	14,199 56		13,647 17
Chemistry	12,394 87	538 53		12,933 40	552 39	13,647 17
Civil Engineering	15,865 49	581 74		16,447 23	2 70	12,980 70
Dairying	12,392 98	3,291 29	237 27	15,921 54	528 76	16,447 23
Economics and Sociology	536 92	300 49		837 41		15,392 76
Electrical Engineering	35,067 61	1,636 77		36,704 38	25 00	15,837 41
Engineering Drawing	7,081 39	206 72		7,288 11		36,679 38
English	778 33			7,778 33	721 08	7,288 11
European History	642 73	3 25		645 98		57 25
Forestry	1,328 25	157 49		1,485 74		645 98
Geology	26,107 93	171 25		26,279 18	4 00	1,485 74
German	426 46	82 55		509 01		26,275 18
Greek	440 83	48 30	28 20	517 33	4 50	509 01
						512 83

History and Philosophy of Education.....	246 25	13 50	259 75	259 75	259 75
Home Economics	3,792 92	700 76	4,493 68	4,493 68	4,493 68
Horticulture	1,890 84	242 22	2,133 06	2,133 06	2,133 06
Industrial Arts	25,552 56	1,267 61	26,820 17	26,820 17	26,820 17
Latin	499 98	43 75	543 73	543 73	543 73
Law	4,843 80	114 66	4,958 46	4,958 46	4,958 46
Manual Training	254 78	173 34	428 12	428 12	428 12
Mathematics	270 96	624 61	895 57	895 57	895 57
Mechanical Engineering	65,457 42	2,435 57	68,284 91	68,284 91	68,284 91
Mechanics	717 26	39 70	756 96	756 96	756 96
Metalurgy	11,671 33	617 85	12,952 14	12,952 14	12,952 14
Military Science and Tactics	2,474 16	149 25	2,623 41	2,623 41	2,623 41
Mine Engineering	9,569 57	623 16	10,192 73	10,192 73	10,192 73
Mineralogy	3,276 82	335 35	3,355 35	3,355 35	3,355 35
Pharmacy	124 85	153 53	3,430 35	3,430 35	3,430 35
Philosophy	7,040 02	548 99	7,589 01	7,589 01	7,589 01
Physical Education	35,111 48	731 05	35,842 53	35,842 53	35,842 53
Physics	182 43	123 87	182 43	182 43	182 43
Political Science	1,067 60	107 86	1,299 33	1,299 33	1,299 33
Poultry	38 75	469 32	38 75	38 75	38 75
Principles and Practice of Education.....	1,701 57	23 80	2,170 89	2,170 89	2,170 89
Psychology	347 40	23 80	371 20	371 20	371 20
Romance Languages	10,298 44	1,495 05	11,827 49	11,827 49	11,827 49
Rural Economics	301 63	54 08	355 71	355 71	355 71
School Administration	19,225 29	2,828 35	22,053 64	22,053 64	22,053 64
Veterinary Medicine	22,583 04	945 50	23,528 54	23,528 54	23,528 54
Zoology and Entomology.....	331,297 06	18,747 95	350,045 01	350,045 01	350,045 01
Library	320 01	9 50	329 51	329 51	329 51
Summer School	6,498 00	317 52	6,498 00	6,498 00	6,498 00
Archaeology	6,946 14	777 94	7,263 66	7,263 66	7,263 66
Agricultural Extension	248 10	16 31	1,026 04	1,026 04	1,026 04
Dean of Women	211 84	3,489 04	227 65	227 65	227 65
University Architect	25,968 53	1,066 19	29,487 57	29,487 57	29,487 57
General Offices, Recitation Room and Laboratories	30,017 18	4,333 62	1,066 19	1,066 19	1,066 19
Stores and Receiving Department	249,498 60	42,817 60	34,350 80	34,350 80	34,350 80
Store Room	2,330 15	1,000 78	292,316 20	292,316 20	292,316 20
Light, Heat and Power Plant.....			4,245 93	4,245 93	4,245 93
Roads and Grounds.....			15 00	15 00	15 00

Schedule I—Concluded

EDUCATIONAL PLANT: LANDS, BUILDINGS AND EQUIPMENT—Concluded

ACCOUNT	Balance at Beginning of Year—Cost	Expended During Year —Cost	Gifts and Additions During Year—Value	Total	Sales and Other Dis- positions During Year—Cost	Balance at End of Year—Cost
Dormitories—Oxley Hall.....	10,719 33	534 48	25 00	11,278 81	266 71	11,012 10
Small Dormitory (Men).....	232 68			232 68		232 68
Total Equipment	\$1,113,161 15	\$103,471 55	\$1,763 21	\$1,195,304 90	\$4,005 95	\$1,191,298 95
Grand Total, Lands, Buildings and Equipment, Schedule D	\$4,708,609 05	\$378,998 70	\$1,763 21	\$5,089,370 96	\$18,005 95	\$5,071,365 01

Schedule J

ENDOWMENT FUNDS FOR GENERAL PURPOSES

Name and Description of Funds	Total Principal and Additions Received to Beginning of Year	Received during Year		Total	Income Expended During Year	Total Principal and Additions at End of Year
		Gifts and Other Additions	Income (from State)			
Original Endowment..... Land Grant, Act of Congress July 2, 1862. Total amount derived from sale of 629,920 acres of land, scrip, \$342,450.80. Accumulation added (state) 181,725.70.	\$524,176 50		\$31,450 59	\$555,627 09	\$31,450 59	\$524,176 50
Virginia Military Lands.... Ceded to State by an Act of Congress Feb. 18, 1871. Act of General Assembly March 26, 1872. accepted said grant and conveyed the lands to the Trustees of the Ohio Agricultural and Mechanical College for the benefit of that institution. Subsequent acts, April 3, 1873, and March 14, 1889..	161,763 15	11,339 02	10,067 62	188,189 79	10,067 62	173,102 17
Henry Folsom Page..... A bequest left by him Oct. 27, 1891, and ratified by his wife and daughter, the entire estate to be disposed of and proceeds paid to State Treasurer in accordance with Sec. 4106 R. S., the disposition of income to be left entirely to the discretion of the Board of Trustees.	217,431 34		13,045 88	230,477 22	13,045 88	217,431 34
Totals	\$903,370 99	\$11,339 02	\$54,584 09	\$969,294 10	\$54,584 09	\$914,710 01
Funds expended on teaching, etc., such as charged in expense account.....					\$54,584 09	
Total endowment fund for general purposes at end of year (irreducible debt of state) Schedule D.....						\$914,710 01

Schedule K

ENDOWMENT FUNDS FOR DESIGNATED PURPOSES

Name and Description of Funds	Total Principal and Additions Received to Beginning of Year	Received during Year		Total	Income Expended During Year	Total Principal and Additions at End of Year
		Gifts and Other Additions	Income (from State)			
William J. Bryan Prize Fund This fund of \$250.00 was given by Mr. Bryan, July 20, 1906, and invested in accordance with Sec. 4105-15 R. S., the income to be used as a prize for the best essay on "The Principles Which Underlie Our Form of Government." In any year when no prize is awarded, the income shall be added to the principal. Sec. 4105-47 R. S.	\$569 94		\$34 70	\$604 64		\$604 64
Stillman W. Robinson Fellowship Fund Established January 28, 1908, by a gift of \$5,000.00 from Prof. Robinson, and invested in accordance with Sec. 4105-15 R. S. An additional gift of \$1850.00 was received July 20, 1906, and likewise invested, the income to be used in maintaining a Fellowship in the Engineering College.	9,413 52		573 28	9,986 80		9,986 80
C. Newton Brown Scholarship Fund This fund was created May 18, 1903, by the payment of \$1,000.00 received from former students of Prof. Brown and invested in accordance with Sec. 4105-15 R. S. An additional amount of \$92.09 was received December 1, 1904, and likewise invested. The income to be invested in accordance with Sec. 4105-47 R. S. until the principal is sufficient to maintain a scholarship in the department of Civil Engineering.	1,971 59		120 06	2,091 65		2,091 65
J. McLain Smith Scholarship Fund A bequest left by him September 27, 1906, the entire estate to be sold and proceeds paid to State Treasurer in accordance with Sec. 4105-15 R. S. The income to be used by the Board of Trustees in assisting worthy young men and young women in attaining an education.	25,446 51		1,527 21	26,973 72	1,523 60	25,450 12

Schedule K — Continued.

ENDOWMENT FUNDS FOR DESIGNATED PURPOSES — Continued.

Name and Description of Funds	Total Principal and Additions Received to Beginning of Year	Received during Year		Total	Income Expended During Year	Total Principal and Additions at End of Year
		Gifts and Other Additions	Income (from State)			
Joseph H. Outhwaite Library Fund..... September 23, 1908, a gift of \$2,000.00 was received from Mrs. Outhwaite in memory of the late Dean Outhwaite and invested in accordance with Sec. 4106-15 R. S., the income to be used for the purchase of books relating to the Civil War.	2,000 00		120 00	2,120 00	120 00	2,000 00
Derby Scholarship Fund.... This fund was established November 23, 1908, by a gift of \$500.00 from Prof. Samuel C. Derby and invested in accordance with Sec. 4106-47 R. S. until the annual income shall be at least \$300.00. The said income to be used in maintaining the Derby Scholarship	1,582 58		96 37	1,678 90		1,678 90
Frederick C. Clark Library Fund	2,000 00		120 00	2,120 00	120 00	2,000 00
Established November 23, 1908, by a gift of \$2,000.00 from Mrs. Clark in memory of the late Prof. F. C. Clark and invested in accordance with Sec. 4106-15 R. S., the income to be used for the purchase of books in the field of Economics.						
Robert P. Scott Student Aid Fund	25,065 00	50 00	1,504 40	26,619 40	1,503 90	25,115 50
Established by a gift of \$25,000.00 from Robert P. Scott, January 2, 1909, and invested in accordance with Sec. 4106-15 R. S., the income to be used in assisting worthy and needy students.						

ENDOWMENT FUNDS FOR DESIGNATED PURPOSES—Concluded

Schedule K—Concluded

Name and Description of Funds	Total Principal and Additions Received to Beginning of Year	Received during Year		Total	Income Expended During Year	Total Principal and Additions at End of Year
		Gifts and Other Additions	Income (from State)			
Siebert Library of German History A bequest left by William Siebert, March 23, 1898, consisting of his library on German History and Science. This library has been added to by books purchased from gifts of his brothers, Louis and John Siebert. June 6, 1913, by Board action, \$750.00 of the Siebert fund was transferred from the Ohio State University Treasury to the State Treasury to be invested in accordance with Sec. 4106-15 R. S., the income to be used for the purchase of books on German history	750 00	100 00	45 00	895 00	45 00	850 00
Nathaniel R. Coleman Library of Medical Literature A gift from his wife, Sarah J. Coleman, Nov. 16, 1913, consisting of 538 volumes of the late Nathaniel R. Coleman, with a few additional rare volumes. Also \$500.00 to be invested in accordance with Sec. 4106-15 R. S., the income to be used for the purchase of books on medicine.		500 00	18 85	518 85		518 85
Class of 1886, Sword Fund.. Gift, January 1, 1911.	60 27		3 66	63 93		63 93
Totals	\$68,859 36	\$650 00	\$4,163 53	\$73,672 89	\$3,312 50	\$70,360 39
Total funds for designated purposes at end of year (irreducible debt of state), Schedule D.....						\$70,360 39

Schedule L

STATE AID—SPECIAL APPROPRIATION

Title or Description	Balance at Beginning of Year	Appropriated During Year	Total	Requisitions During Year	Cancelled	Balance at End of Year
Additional Farm Lands and Improvements	\$12,500 00	\$42,000 00	\$54,500 00	\$54,500 00		
Addition to Physics Building. Agricultural Extension and Mechanical Arts		40,000 00	40,000 00	11,160 60		\$28,839 40
Agriculture Winter Course	35,000 00	18,222 50	53,222 50	33,043 83		20,178 67
Biological Survey		3,000 00	3,000 00			3,000 00
Botany and Zoology Building. Botany and Zoology Building Equipment	117,129 25	1,856 00	1,856 00			1,856 00
Cluster Lights		117,129 25	117,129 25	85,389 85		31,739 40
College of Agriculture—Apparatus and Equipment		10,000 00	10,000 00			10,000 00
College of Agriculture—Dean		2,622 00	2,622 00			2,622 00
College of Agriculture—Salaries	10,000 00	11,876 50	21,876 50	9,868 08		11,548 42
Coal and Gas		5,000 00	5,000 00	1,874 97		3,125 03
College of Arts—Apparatus and Equipment	25,000 00	15,000 00	50,285 00	25,381 58		15,000 00
College of Education—Apparatus and Equipment	825 00	25,285 00	50,285 00	25,381 58		24,903 42
College of Engineering—Apparatus and Equipment		985 00	1,760 00	483 10		1,276 90
College of Veterinary Medicine—Apparatus and Equipment		560 00	503 00			500 00
Emergency	7,000 00	8,248 50	15,248 50	5,938 60		9,309 90
Equipment Agronomy Dept.						
Equipment Dairy Dept.	5,000 00	13,272 00	5,000 00	3,590 36		1,409 64
Equipment Electrical Engineering Laboratory	788 93		13,272 00	10,071 54		3,200 46
Equipment Mechanical Engineering Laboratory	1,557 48		788 93	788 93		
Equipment New Library Bldg.	2,134 82		2,134 82	2,134 82		
Equipment Power House	2,960 38		2,960 38	2,960 38		
Equipment University Farm	10,778 84	18,000 00	10,778 84	8,964 16		1,814 68
Extension of Hot Water Heating System—Tunnels	15,354 34		33,354 34	15,358 94		17,995 40
Extension Tunnel to Archaeological Museum	1,884 52		1,884 52	1,883 06		1 47
Extension Tunnel to Botany and Zoology Buildings	16,475 00	7,280 70	23,755 70	14,828 36		8,927 34
Fire Escapes and Remodeling University Hall	7,800 00	7,653 00	7,653 00	1,816 40		5,836 60
Fire Protection	925 56		925 56	925 56		
Freight and Kiln Room	2,500 00	4,610 10	7,110 10	3,296 19		3,813 91
General Budget	30,630 00	12,200 00	80,630 00	78,027 51		12,199 23
Graduate School		2,500 00	2,500 00			2,602 49
Horticultural and Forestry Building	75,000 00	70,000 00	145,000 00	88,500 42		2,500 00
Horticultural and Forestry Building Equipment		10,000 00	10,000 00			56,499 58
Forward	\$381,264 12	\$379,561 30	\$760,825 42	\$470,165 48		\$290,659 94

Schedule L—Concluded

STATE AID—SPECIAL APPROPRIATION—Concluded

Title or Description	Balance at Beginning of Year	Appropriated During Year	Total	Requisitions During Year	Cancelled	Balance at End of Year
Brought Forward.....	\$381,264 12	\$379,561 30	\$760,825 42	\$470,165 48		\$290,659 94
Incinerators	1,000 00		1,000 00	621 18		378 82
Labor on Farm (Due to flood)	300 00		300 00	300 00		
Library—Binding		2,000 00	2,000 00	330 40		1,669 60
Library—Books	14,290 19	16,850 00	30,640 19	15,844 24		14,796 95
Library—Building	109 54		109 54	109 54		
Library—New Stacks.....		3,200 00	3,200 00			3,200 00
Motor Truck	2,500 00		2,500 00	2,500 00		
New Roads	1,000 00	4,000 00	5,000 00	1,000 00		4,000 00
New Roof on Gymnasium.....	2,000 00		2,000 00	1,442 69		557 31
Official Milk Testing.....	2,000 00	2,200 00	4,200 00	1,526 88		2,673 17
Ohio Union Vault.....		500 00	500 00			500 00
Physical Plant		23,951 80	23,951 80	3,056 90		20,894 90
Railway to Grounds.....	2,666 28		2,666 28	1,847 86		818 42
Remodeling Orton Hall.....	2,000 00		2,000 00	1,944 77		55 23
Remodeling Page Hall.....	4,000 00		4,000 00	3,486 00		514 00
Repairs and Betterment of Buildings and Grounds.....	25,778 96		25,778 96	25,778 96		
Repairs to Railway (Due to Flood)	6,160 00		6,160 00	6,160 00		
Roads and Grounds—Labor.....		1,194 90	1,194 90	103 63		1,091 27
Scientific Apparatus, Laboratory Equipment	2,507 41		2,507 41	2,507 41		
Sidewalks	2,000 00	6,000 00	8,000 00	2,067 20		5,932 80
Store Room and Receiving Department Building.....	9,303 30		9,303 30	9,303 30		
Summer Session.....	10,000 00	15,000 00	25,000 00	10,038 56		14,961 44
Teachers Contingency.....		10,000 00	10,000 00			10,000 00
Veterinary Clinic Building and Equipment	2,109 72		2,109 72	1,430 12		679 60
Veterinary Laboratory—Dog House		147 00	147 00			147 00
Veterinary Laboratory—Elevator		400 00	400 00			400 00
Veterinary Laboratory—New Floor		1,320 00	1,320 00			1,320 00
Water Rates	7,000 00	8,160 00	15,160 00	7,669 29		7,490 71
Winter Course in Highway Engineering	1,000 00	875 00	1,875 00	955 17		919 83
Wood Working Machinery.....		1,480 00	1,480 00	1,285 63		214 37
Grace Ackland Jansen.....		3,750 00	3,750 00	3,750 00		
Total	\$478,989 52	\$480,090 00	\$959,079 52	\$575,205 16		\$383,874 36

OXLEY HALL

Schedule M

RECEIPTS AND DISBURSEMENTS—SUPPLEMENTAL.

RECEIPTS—

Balance July 1, 1913.....		\$3,891 81
For Rooms	\$4,163 50	
For Board	11,857 33	
For Guests	301 05	
For Meals to Rooms.....	16 05	
For Laundry	358 43	
For Miscellaneous	129 43	
	<hr/>	
Total receipts		16,825 79
		<hr/>
Total receipts and balance.....		\$25,717 60

DISBURSEMENTS—

Salary, Superintendent	\$1,300 00	
Salary, Secretary	550 00	
Employes and Extra Labor.....	3,718 24	
Stationery and Office Supplies.....	34 64	
Incidentals	304 61	
Food Supplies	6,847 41	
Material and General Supplies.....	918 92	
Freight and Cartage.....	12 09	
Repairs—Furniture and Fixtures.....	20 24	
Furniture and Fixtures.....	534 48	
Water, Gas and Electricity (General accounts)....	1,247 86	
	<hr/>	
Total Expenditures		15,488 49
		<hr/>
Balance June 30, 1914.....		\$10,229 11

APPENDIX I.

BOARD OF TRUSTEES 1913-1914

	<i>Date Original Appointment</i>	<i>Term Expires</i>
WALTER J. SEARS, Chillicothe.....	May 13, 1907.....	May 13, 1914
JOHN T. MACK, Sandusky.....	Feb. 24, 1893.....	" 1915
JULIUS F. STONE, Columbus.....	May 13, 1909.....	" 1916
GUY W. MALLON, Cincinnati.....	May 11, 1903.....	" 1917
O. E. BRADFUTE, Cedarville.....	Aug. 21, 1905.....	" 1918
FRANK E. POMERENE, Coshocton.....	May 15, 1905.....	" 1919
BENJ. F. McCANN, Dayton.....	May 13, 1913.....	" 1920

OFFICERS OF THE BOARD

WALTER J. SEARS.....	<i>Chairman</i>
JULIUS F. STONE.....	<i>Vice-Chairman</i>
CARL E. STEEB.....	<i>Secretary</i>
LOWRY F. SATER.....	<i>Treasurer</i>

COMMITTEES OF THE BOARD

EXECUTIVE

WALTER J. SEARS,

F. E. POMERENE,

JULIUS F. STONE.

FARM

O. E. BRADFUTE,

BENJ. F. McCANN,

JOHN T. MACK.

AUDITING

JOHN T. MACK,

O. E. BRADFUTE,

GUY W. MALLON.

FACULTY

GUY W. MALLON,

BENJ. F. McCANN,

F. E. POMERENE.

BUILDINGS

JULIUS F. STONE,

BENJ. F. McCANN,

GUY W. MALLON.

ROADS AND GROUNDS

F. E. POMERENE,

JULIUS F. STONE,

O. E. BRADFUTE.

APPENDIX II.

ADMINISTRATIVE OFFICERS

THE UNIVERSITY

WILLIAM OXLEY THOMPSON, D. D., LL. D.....	<i>President</i>
Office, University Hall.	
CARL E. STEEB, B. PH.....	<i>Business Manager and Secretary of Board of Trustees</i>
Office, University Hall.	
WILBUR E. MANN, M. A., <i>Secretary of the University Faculty and University Editor</i>	
Office, University Hall.	
R. M. ROYER.....	<i>Assistant Purchasing Agent</i>
Office, University Hall.	
EDITH D. COCKINS, B. A.....	<i>Registrar</i>
Office, University Hall.	
KATHARINE H. DUNCAN.....	<i>Executive Clerk</i>
Office, University Hall.	
BESS C. WATTERS.....	<i>Cashier</i>
Office, University Hall.	
KARL D. SWARTZEL, PH. D.....	<i>Dean of the Summer Session</i>
Office, University Hall.	
GEORGE R. TWISS.....	<i>High School Visitor</i>
Office, University Hall.	
F. B. PEARSON.....	<i>High School Visitor</i>
Office, University Hall.	
LESTER E. WOLFE.....	<i>Secretary of the Entrance Board</i>
Office, University Hall.	
JOHN A. BOWNOCKER, D. SC.....	<i>Curator of Geological Museum</i>
WILLIAM C. MCCracken.....	<i>Superintendent of Buildings and Chief Engineer</i>
Office, Power House.	

APPENDIX III.

MEMBERS OF UNIVERSITY FACULTY AND OTHER INSTRUCTORS.

1913-1914

WILLIAM OXLEY THOMPSON.....	University Grounds
<i>President</i>	
WALTER QUINCY SCOTT.....	Ellensburg, Wash.
<i>Emeritus President and Professor of Philosophy</i>	
THOMAS CORWIN MENDENHALL.....	Ravenna, Ohio
<i>Emeritus Professor of Physics</i>	
SIDNEY AUGUSTUS NORTON.....	363 East Town Street
<i>Emeritus Professor of Chemistry</i>	
WILLIAM HENRY SCOTT.....	Clintonville, Ohio
<i>Emeritus Professor of Philosophy</i>	
*SAMUEL CARROLL DERBY.....	93 Fifteenth Avenue
<i>Professor of Latin</i>	
WILLIAM RANE LAZENBY	348 West Eighth Avenue
<i>Professor of Forestry</i>	
†JOSIAH RENICK SMITH.....	
<i>Professor of Greek</i>	
GEORGE WELLS KNIGHT.....	104 Fifteenth Avenue
<i>Professor of American History</i>	
ROSSER DANIEL BOHANNAN.....	226 Sixteenth Avenue
<i>Professor of Mathematics</i>	
ALBERT MARTIN BLEILE.....	218 King Avenue
<i>Professor of Anatomy and Physiology</i>	
GEORGE BEECHER KAUFFMAN.....	Worthington and Mill Roads
<i>Professor of Pharmacy and Dean of the College of Pharmacy</i>	
BENJAMIN LESTER BOWEN.....	775 East Broad Street
<i>Professor of Romance Languages</i>	
JOSEPH VILLIERS DENNEY.....	190 West Eleventh Avenue
<i>Professor of English and Dean of the College of Arts, Philosophy and Science</i>	

* Absent on leave 1913-14.

† Died February 15, 1914.

- EDWARD ORTON, JR.....Lincoln Hotel
Professor of Ceramic Engineering and Dean of the College of Engineering
- DAVID STUART WHITE.....1656 Neil Avenue
Professor of Veterinary Medicine and Dean of the College of Veterinary Medicine
- EDGAR BENTON KINKAD.....1944 Iuka Avenue
Professor of Law
- WILLIAM THOMAS MAGRUDER.....342 West Ninth Avenue
Professor of Mechanical Engineering
- *WILLIAM HERBERT PAGE.....Grandview Heights, Sta. A., R. D. No. 5
Professor of Law
- WILLIAM MCPHERSON198 Sixteenth Avenue
Professor of Chemistry and Dean of the Graduate School
- JOSEPH NELSON BRADFORD.....1598 Neil Avenue
Professor of Architecture
- HERBERT OSBORN485 King Avenue
Professor of Zoology and Entomology and Director of Lake Laboratory
- OLIVE B. JONES.....95 West Eleventh Avenue
Librarian
- HENRY CURWEN LORD.....University Grounds
Professor of Astronomy and Director of the Emerson McMillin Observatory
- FRANK EDWIN SANBORN.....90 Fourteenth Avenue
Professor of Industrial Arts
- FRANK ARNOLD RAY.....R. F. D. No. 3, Newark, Ohio
Professor of Mine Engineering
- JOHN ALLEN SHAUCK.....95 Winner Avenue
Professor of Law
- FRANCIS CARY CALDWELL.....206 Sixteenth Avenue
Professor of Electrical Engineering
- CAPT. GEORGE L. CONVERSE, U. S. A. (retired).....298 King Avenue
Professor of Military Science and Tactics
- CHARLES SMITH PROSSER.....114 West Tenth Avenue
Professor of Geology
- JOHN ADAMS BOWNOCKER.....185 Fifteenth Avenue
Professor of Inorganic Geology and Curator of Museum
- ALFRED DODGE COLE.....1648 Neil Avenue
Professor of Physics

* Absent on leave, 1913-14.

WILBUR HENRY SIEBERT.....	182 West Tenth Avenue
<i>Professor of European History</i>	
CHRISTOPHER ELIAS SHERMAN.....	141 Thirteenth Avenue
<i>Professor of Civil Engineering</i>	
*CHARLES SUMNER PLUMB.....	1980 Indianola Avenue
<i>Professor of Animal Husbandry</i>	
†WILLIAM W. BOYD.....	56 North Monroe Avenue
<i>Professor of School Administration and Dean of the College of Education</i>	
SEPTIMUS SISSON	274 Fourteenth Avenue
<i>Professor of Comparative Anatomy</i>	
HOMER CHARLES PRICE.....	1986 Indianola Avenue
<i>Professor of Rural Economics and Dean of the College of Agriculture</i>	
EDMOND B. DILLON.....	83 Wilson Avenue
<i>Professor of Law</i>	
*JAMES E. HAGERTY.....	94 Fifteenth Avenue
<i>Professor of Economics and Sociology</i>	
DAVID R. MAJOR.....	146 East Frambes Avenue
<i>Professor of Psychology</i>	
CHARLES BRADFIELD MORREY.....	188 West Tenth Avenue
<i>Professor of Bacteriology</i>	
FRANK HARVEY ENO.....	222 Sixteenth Avenue
<i>Professor of Municipal Engineering</i>	
ALFRED VIVIAN	96 Lexington Avenue
<i>Professor of Agricultural Chemistry</i>	
JAMES ELLSWORTH BOYD.....	188 East Frambes Avenue
<i>Professor of Mechanics</i>	
THOMAS EWING FRENCH.....	1458 Worthington Street
<i>Professor of Engineering Drawing</i>	
ARTHUR GILLET McCALL.....	141 West Eleventh Avenue
<i>Professor of Agronomy</i>	
GEORGE WASHINGTON RIGHTMIRE.....	262 Nineteenth Avenue
<i>Professor of Law</i>	
H. SHINDLE WINGERT.....	12 Fifteenth Avenue
<i>Professor of Physical Education</i>	
OSCAR ERF	157 Twelfth Avenue
<i>Professor of Dairying</i>	

* Absent on leave 1913-14.

† Resigned June, 1914.

- †FRANK PIERREPONT GRAVES.....1340 Highland Street
Professor of the History and Philosophy of Education
- HENRY RUSSELL SPENCER.....518 East Broad Street
Professor of Political Science
- ALONZO HUBERT TUTTLE.....47 Twelfth Avenue
Professor of Law
- GEORGE WASHINGTON MCCOARD.....1448 Neil Avenue
Professor of Mathematics
- ARTHUR WINFRED HODGMAN.....46 Fourteenth Avenue
Professor of Latin
- WILLIAM EDWARDS HENDERSON.....186 Sixteenth Avenue
Professor of Inorganic and Physical Chemistry
- JOSEPH RUSSELL TAYLOR.....155 Thirteenth Avenue
Professor of English
- CHARLES A. BRUCE.....1981 Indianola Avenue
Professor of Romance Languages
- CHARLES WILLIAM FOULK.....384 King Avenue
Professor of Analytical Chemistry
- FRANCIS LEROY LANDACRE.....2026 Iuka Avenue
Professor of Zoology and Entomology
- WALLACE STEDMAN ELDEN.....1734 Summit Street
Professor of Latin
- MATTHEW BROWN HAMMOND.....1481 Michigan Avenue
Professor of Economics and Sociology
- KARL DALE SWARTZEL.....1952 Iuka Avenue
Professor of Mathematics
- HARRY WALDO KUHN.....1460 Michigan Avenue
Professor of Mathematics
- *GEORGE HARLEY MCKNIGHT.....646 Franklin Avenue
Professor of English
- *THOMAS HARVEY HAINES.....327 East Broad Street
Professor of Psychology
- ARTHUR ERNEST DAVIES.....146 East Franks Avenue
Professor of Philosophy

† Resigned October, 1913.

* Absent on leave 1913-14.

CLYDE T. MORRIS.....	2043 Iuka Avenue
<i>Professor of Structural Engineering</i>	
*GEORGE RANSOM TWISS.....	318 West Ninth Avenue
<i>High School Visitor</i>	
FRANCIS BAIL PEARSON.....	125 Wilson Avenue
<i>High School Visitor</i>	
WENDELL PADDOCK	Grandview, Columbus, Ohio
<i>Professor of Horticulture</i>	
JOHN J. ADAMS.....	102 Latta Avenue
<i>Professor of Law and Dean of the College of Law</i>	
CLAIR ALBERT DYE.....	1569 Worthington Street
<i>Professor of Pharmacy</i>	
OSCAR V. BRUMLEY.....	105 Thirteenth Avenue
<i>Professor of Veterinary Surgery</i>	
EDWARD E. SOMERMEIER.....	318 West Ninth Avenue
<i>Professor of Metallurgy</i>	
EUGENE F. McCAMPBELL.....	115 East Woodruff Avenue
<i>Professor of Bacteriology</i>	
J. WARREN SMITH.....	375 West Eighth Avenue
<i>Professor of Meteorology</i>	
JOSEPH A. LEIGHTON.....	14 South Eighteenth Street
<i>Professor of Philosophy</i>	
A. G. G. RICHARDSON.....	1448 Neil Avenue
<i>Professor of Veterinary Pathology</i>	
SAMUEL J. BARNETT.....	1634 Neil Avenue
<i>Professor of Physics</i>	
JOHN H. SCHAFFNER.....	174 Twelfth Avenue
<i>Professor of Botany</i>	
WILLIAM LLOYD EVANS.....	81 South Champion Avenue
<i>Professor of Chemistry</i>	
MARSHALL BLAKEMORE EVANS.....	181 King Avenue
<i>Professor of German</i>	
WILLIAM LUCIUS GRAVES.....	1313 Forsythe Avenue
<i>Professor of English</i>	
CAROLINE M. BREYFOGLE.....	16 Fourteenth Avenue
<i>Dean of Women</i>	

* Absent on leave 1913-14.

- ALAN ESTIS FLOWERS.....1468 Michigan Avenue
Professor of Electrical Engineering
- GEORGE FREDERICK ARPS.....216 East Lane Avenue
Professor of Psychology
- EDWIN F. CODDINGTON.....426 Fifteenth Avenue
Professor of Mechanics
- ROBERT F. EARHART.....371 West Tenth Avenue
Professor of Physics
- FAYETTE A. MCKENZIE.....83 Sixteenth Avenue
Professor of Economics and Sociology
- JAMES RENWICK WITHROW.....77 Sixteenth Avenue
Professor of Chemistry
- BERTHOLD AUGUST EISENLOHR.....1594 Neil Avenue
Professor of German
- FREDERICK COLUMBUS BLAKE.....350 Iuka Avenue
Professor of Physics
- OLIVER CAREY LOCKHART.....194 Thirteenth Avenue
Professor of Economics and Sociology
- EDGAR SHUGERT INGRAHAM.....Clintonville, Ohio
Professor of Romance Languages
- EDNA NOBLE WHITE.....1874 Summit Street
Professor of Home Economics
- EDGAR HOLMES MCNEAL.....1342 Forsythe Avenue
Professor of European History
- HOMER C. HOCKETT.....Worthington, Ohio
Professor of American History
- SAMUEL EUGENE RASOR.....1594 Neil Avenue
Professor of Mathematics
- CHARLES ST. JOHN CHUBB.....390 Fifteenth Avenue
Professor of Architecture
- SAMUEL CARSON DUNCAN.....316 West Eighth Avenue
Professor of English
- HARRY CLIFFORD RAMSOWER.....57 East Woodruff Avenue
Professor of Rural Engineering
- DANA JAMES DEMOREST.....372 Fourteenth Avenue
Professor of Metallurgy

- CHARLES CLIFFORD HUNTINGTON.....1485 Pennsylvania Avenue
Professor of Economics and Sociology
- FRANKLIN WALES MARQUIS.....412 West Eighth Avenue
Professor of Steam Engineering
- LYNN WILBUR ST. JOHN.....94 East Frambes Avenue
Professor of Competitive and Recreative Athletics
- JOHN WOODWORTH WILCE.....121 Fourteenth Avenue
Professor of Competitive and Recreative Athletics
- FRANK RILEY CASTLEMAN.....80 East Norwich Avenue
Professor of Competitive and Recreative Athletics
- ARTHUR S. WATTS.....207 West Eighth Avenue
Professor of Ceramic Engineering
- R. V. SCHMITT.....271 Miller Avenue
Acting Professor of Greek Language and Literature
- JAMES STEWART HINE.....1340 Hunter Avenue
Associate Professor of Zoology and Entomology
- CHARLES LINCOLN ARNOLD.....328 West Eighth Avenue
Associate Professor of Mathematics
- THOMAS SCOTT LOWDEN.....317 West Sixth Avenue
Associate Professor of the Principles and Practice of Education
- WILLIAM ABNER KNIGHT.....206 West Lane Avenue
Associate Professor of Machine Shop Practice
- HORACE JUDD281 Thirteenth Avenue
Associate Professor of Experimental Engineering
- ALICE LITTLEJOHN GOETZ.....293 Eighteenth Avenue
Associate Professor of Physical Education
- RAYMOND JESSE SEYMOUR.....262 Fourteenth Avenue
Associate Professor of Anatomy and Physiology
- EDMUND SEWALL MANSON, JR.....4 Thirteenth Avenue
Associate Professor of Astronomy
- JOHN F. LYMAN.....1345 Highland Street
Associate Professor of Agricultural Chemistry
- CHARLES CLEMENTS MORRIS.....149 East Frambes Avenue
Assistant Professor of Mathematics
- ALPHEUS WILSON SMITH.....323 West Ninth Avenue
Assistant Professor of Physics

- WELLS H. MINOR.....132 West Tenth Avenue
Assistant Professor of Mine Engineering
- ROY K. SCHLAFLY.....1826 North Fourth Street
Assistant Professor of Civil Engineering
- VERNON H. DAVIS.....236 West Eighth Avenue
Assistant Professor of Horticulture
- ROBERT FISKE GRIGGS.....431 West Eighth Avenue
Assistant Professor of Botany
- JOHN BOWKER PRESTON.....290 East Fifteenth Avenue
Assistant Professor of Mathematics
- ROBERT MEIKLEJOHN1528 Worthington Street
Assistant Professor of Engineering Drawing
- MAY THOMAS1634 Neil Avenue
Assistant Professor of German
- CHARLES E. BLANCHARD.....139 West Northwood Avenue
Assistant Professor of Law
- GRACE MARIE BAREIS.....201 West Eleventh Avenue
Assistant Professor of Mathematics
- ALFRED PAUL DACHNOWSKI.....307 West Ninth Avenue
Assistant Professor of Botany
- LOUIS ALBION COOPER.....163 West Ninth Avenue
Assistant Professor of English
- THEODORE ELY HAMILTON.....220 West Ninth Avenue
Assistant Professor of Romance Languages
- EDWIN POE DURRANT.....Westerville, Ohio
Assistant Professor of Anatomy and Physiology
- CLARENCE PERKINS.....212 West Tenth Avenue
Assistant Professor of European History
- WILLIAM MORTON BARROWS.....385 East Oakland Avenue
Assistant Professor of Zoology and Entomology
- CHARLES SHEARD367 West Tenth Avenue
Assistant Professor of Physics
- SARAH T. BARROWS.....1806 North High Street
Assistant Professor of German
- EDWIN LONG BECK.....349 West Tenth Avenue
Assistant Professor of English

- HARRY FRANKLIN HARRINGTON.....2117 Indianola Avenue
Assistant Professor of English
- THOMAS McD. HILLS.....76 Twelfth Avenue
Assistant Professor of Geology
- FONSA ALLEN LAMBERT.....1994 Summit Street
Assistant Professor of Comparative Anatomy
- ERNEST SCOTTClintonville, Ohio
Assistant Professor of Pathology
- CARL JOSEPH WEST.....53 East Woodruff Avenue
Assistant Professor of Mathematics
- WILLIAM BARNEY COCKLEY.....47 Twelfth Avenue
Assistant Professor of Law
- LEWIS M. MONTGOMERY.....1532 Worthington Street
Assistant Professor of Horticulture
- NORMAN W. SCHERER.....1846 Summit Street
Assistant Professor of Forestry
- V. A. KETCHAM.....47 East Patterson Avenue
Assistant Professor of English
- WILLIAM J. MCCAUGHEY.....50 East Frambes Avenue
Assistant Professor of Mineralogy
- LUDWIG LEWISOHN23 Sixteenth Avenue
Assistant Professor of German
- FRANCIS W. COKER.....70 Twelfth Avenue
Assistant Professor of Political Science
- GARLAND A. BRICKER.....297 West Tenth Avenue
Assistant Professor of Agricultural Education
- HENRY F. WALRADT.....64 Fourteenth Avenue
Assistant Professor of Economics and Sociology
- ROBERT OSCAR BUSEY.....2050 Iuka Avenue
Assistant Professor of German
- OMER C. CUNNINGHAM.....368 East Northwood Avenue
Assistant Professor of Dairying
- BEATRICE SHEETS.....298 Woodland Avenue
Assistant Professor of Economics and Sociology
- GEORGE S. CHAPIN.....55 East Woodruff Avenue
Assistant Professor of Romance Languages

- FREEMAN S. JACOBY.....360 Nineteenth Avenue
Assistant Professor of Poultry Husbandry
- CHARLES FORD LONG.....1507 Hawthorne Avenue
Assistant Professor of Chemistry
- ANNA R. VAN METER.....227 Fifteenth Avenue
Assistant Professor of Home Economics
- CARL EUGENE PARRY.....212 West Tenth Avenue
Assistant Professor of Economics and Sociology
- CLYDE ORVAL RUGGLES.....295 Fourteenth Avenue
Assistant Professor of Economics and Sociology
- ELDON LEONARD USRY.....1912 Summit Street
Assistant Professor of Manual Training
- JAMES HOWARD SNOOK.....35 Twelfth Avenue
Assistant Professor of Veterinary Surgery
- WILLIAM A. STARIN.....Clintonville, Ohio
Assistant Professor of Bacteriology
- DONALD J. KAYS.....181 West Eighth Avenue
Assistant Professor of Animal Husbandry
- GEORGE LIVINGSTONGrandview Heights
Assistant Professor of Agronomy
- CARL B. HARROP.....29 West Oakland Avenue
Assistant Professor of Ceramic Engineering
- WILLIAM S. HINDMAN.....26 West Frambes Avenue
Assistant Professor of Civil Engineering
- J. N. SHOEMAKER.....Veterinary Clinic Building
Assistant Professor of Veterinary Medicine
- ALLANDO A. CASE.....Powell, Ohio
Instructor in Vise Work
- FREDERICA DETMERS1448 Neil Avenue
Instructor in Botany
- WILLIAM J. NORRIS.....60 East Eighth Avenue
Instructor in Engineering Drawing
- CLEMENT M. BEEM.....173 Fourteenth Avenue
Instructor in Pattern-making and Founding
- FRANK H. HASKETT229 West Eighth Avenue
Instructor in Architecture

EDWARD SPEASE	89 East Norwich Avenue
<i>Instructor in Pharmacy</i>	
WILLIAM LEANDER CLEVENGER.....	38 Twelfth Avenue
<i>Instructor in Dairying</i>	
HERMAN GUSTAVUS HEIL.....	323 West Ninth Avenue
<i>Instructor in Physics</i>	
OWEN E. WILLIAMS.....	2094 Tuller Street
<i>Instructor in Engineering Drawing</i>	
CREE SHEETS.....	52 East Lane Avenue
<i>Instructor in Engineering Drawing</i>	
MARGARET S. F. DACHNOWSKI.....	1551 Worthington Street
<i>Instructor in Art</i>	
FREDERICK W. IVES.....	2145 Tuller Street
<i>Instructor in Engineering Drawing</i>	
WILLIAM DAVIS TURNBULL.....	2208 Indiana Avenue
<i>Instructor in Engineering Drawing</i>	
OTTO F. BOND.....	315 Twentieth Avenue
<i>Instructor in Romance Languages</i>	
THOMAS D. PHILLIPS	30 East Frambes Avenue
<i>Instructor in Rural Economics</i>	
ANNA F. BLOHM.....	1874 Summit Street
<i>Instructor in Home Economics</i>	
JOHN E. SHEPARDSON.....	2144 Neil Avenue
<i>Instructor in Electrical Engineering</i>	
THOMAS GUTHRIE PHILLIPS.....	31 Twelfth Avenue
<i>Instructor in Agricultural Chemistry</i>	
ARTHUR C. HARPER.....	10 West Woodruff Avenue
<i>Instructor in Engineering Drawing</i>	
ROBERT B. STOLTZ	1565 Worthington Street
<i>Instructor in Dairying</i>	
WILMER G. STOVER.....	325 West Tenth Avenue
<i>Instructor in Botany</i>	
MAUD C. HATHAWAY.....	2018 North High Street
<i>Instructor in Home Economics</i>	
EDGAR M. ALLEN.....	22 Twelfth Avenue
<i>Instructor in Anatomy and Physiology</i>	

CECIL E. BOORD.....	1310 Forsythe Avenue
<i>Instructor in Chemistry</i>	
EDWARD J. GILBERT.....	66 Chittenden Avenue
<i>Instructor in Engineering Drawing</i>	
MARY LOUISE SHEPHERD.....	965 Bryden Road
<i>Instructor in Art</i>	
*ANDREW M. JANSEN.....	
<i>Instructor in Bacteriology</i>	
WENCIL J. KOSTIR.....	129 West Tenth Avenue
<i>Instructor in Zoology and Entomology</i>	
THEODORE F. KOTZ.....	2178 Summit Street
<i>Instructor in German</i>	
ALICE ROBINSON.....	295 Nineteenth Avenue
<i>Instructor in Art</i>	
CLARA GOULD MARK.....	Westerville, Ohio
<i>Instructor in Geology</i>	
ARTHUR M. SCHLESINGER.....	212 West Tenth Avenue
<i>Instructor in American History</i>	
GEORGE F. SCHLESINGER.....	16 Thirteenth Avenue
<i>Instructor in Civil Engineering</i>	
GEORGE H. BARTHALOMEW.....	1674 North High Street
<i>Instructor in Physical Education</i>	
HENRY C. OHLSON.....	16 West Tenth Avenue
<i>Instructor in Physical Education</i>	
ROSCOE C. SLOANE.....	1463 North High Street
<i>Instructor in Civil Engineering</i>	
WALTER A. VERWEIBE.....	1342 Forsythe Avenue
<i>Instructor in Geology</i>	
RUDOLPH PINTNER.....	100 East, Norwich Avenue
<i>Instructor in Psychology</i>	
EMILE CATHERINE RENZ.....	1806 Neil Avenue
<i>Instructor in Economics and Sociology</i>	
WILBERT C. RONAN.....	36 Fourteenth Avenue
<i>Instructor in Architecture</i>	
HOWARD F. DUNHAM.....	172 West Tenth Avenue
<i>Instructor in Romance Languages</i>	

* Died January 1914.

JAY K. DITCHY.....	234 West Tenth Avenue
	<i>Instructor in Romance Languages</i>
WILMER C. HARRIS.....	1342 Forsythe Avenue
	<i>Instructor in European History</i>
H. C. KEIDEL.....	139 West Lane Avenue
	<i>Instructor in German</i>
ALBERT PAUL WEISS.....	100 East Norwich Avenue
	<i>Instructor in Psychology</i>
†HENRY B. FRONING.....	79 East Frambes Avenue
	<i>Instructor in Bacteriology</i>
JACOB A. FOUST.....	145 West Frambes Avenue
	<i>Instructor in Forging</i>
ALEXANDER P. MOORE.....	90 Fourteenth Avenue
	<i>Instructor in Romance Languages</i>
†E. C. SMITH.....	79 East Frambes Avenue
	<i>Instructor in Metallurgy</i>
ROY A. BROWN.....	407 Seventeenth Avenue
	<i>Instructor in Electrical Engineering</i>
WILLIAM HISLOP	294 West Tenth Avenue
	<i>Instructor in Animal Husbandry</i>
GILBERT GUSLER	1606 Neil Avenue
	<i>Instructor in Animal Husbandry</i>
MARTHA GUERIN ELDEN.....	1734 Summit Street
	<i>Acting Instructor in Ancient Art</i>
J. FORREST CRAIG.....	1273 Summit Street
	<i>Instructor in English</i>
AUBREY I. BROWN.....	92 Chittenden Avenue
	<i>Instructor in Mechanical Engineering</i>
MARIAN LUCAS GARVIN.....	116 Norwich Avenue
	<i>Instructor in Home Economics</i>
ULYSSES W. DENMAN.....	505 Chilcote Avenue
	<i>Assistant in Pattern-Making</i>
ADOLPH FEIEL	520 East Main Street
	<i>Assistant in Anatomy and Physiology</i>
HORTENSE RICKARD	333 West Tenth Avenue
	<i>Assistant in Mathematics</i>

† Part time.

- HOWARD E. BOUCHER.....862 Mt. Vernon Avenue
Assistant in Anatomy and Physiology
- JESSE E. DAY.....309 King Avenue
Assistant in Chemistry
- DORA SAUER24 Stewart Avenue
Assistant in Physical Education
- JOHN J. BRECKUR.....32 East Woodruff Avenue
Assistant in Founding
- ROBERT E. SMITH.....Westerville, Ohio
Assistant in Woodworking
- MALCOLM C. SEWELL.....181 West Eighth Avenue
Assistant in Agronomy
- MALON YODER120 West Tenth Avenue
Assistant in Agronomy
- OTTO W. PFLUEGER.....922 Studer Avenue
Assistant in Forestry
- R. M. MOODY65 West Eighth Avenue
Assistant in Electrical Engineering
- HOMER D. HOLLER.....1672 Summit Street
Assistant in Chemistry
- R. C. HUMMELL.....139 West Ninth Avenue
Assistant in Chemistry
- EDWARD SCHMIDT.....75 W. Tenth Avenue
Assistant in Chemistry
- J. B. DICKSON.....137 East Seventh Avenue
Assistant in Chemistry
- SARAH E. STIMMEL.....20 West Tenth Avenue
Assistant in Home Economics
- GRACE G. WALKER.....53 Chittenden Avenue
Assistant in Home Economics
- MABELLE ROGERS.....1705 North Fourth Street
Assistant in Home Economics
- LILA SKINNER.....1705 North Fourth Street
Assistant in Home Economics
- ROBERT H. NEILAN.....66 West Tenth Avenue
Assistant in Mechanical Engineering

ALVAH W. SMITH.....	151 West Ninth Avenue
<i>Assistant in Physics</i>	
JOSEPH P. HERSHBERGER, JR.....	211 West Eleventh Avenue
<i>Assistant in Agronomy</i>	
ELMER HOCKETT.....	83 West Lane Avenue
<i>Assistant in Chemistry</i>	
JAMES R. WILEY.....	1606 Neil Avenue
<i>Assistant in Animal Husbandry</i>	
CLAYTON L. LONG.....	1467 Pennsylvania Avenue
<i>Assistant in Horticulture</i>	
EARL W. MCCOY.....	24 East Frambes Avenue
<i>Assistant in Civil Engineering</i>	
W. A. PRICE.....	17 Sixteenth Avenue
<i>Assistant in Zoology and Entomology</i>	
R. B. WILDERMUTH.....	1928 North High Street
<i>Assistant in German</i>	
MAX WERSHOW.....	Veterinary Clinic Building
<i>Assistant in Veterinary Medicine</i>	
PERRY L. WRIGHT.....	35 West Lane Avenue
<i>Assistant in Forging</i>	
GUTHRIE O. BURRELL.....	125 Hubbard Avenue
<i>Assistant in Anatomy and Physiology</i>	
RALPH B. WILSON.....	2554 North High Street
<i>Assistant in Economics</i>	
*D. D. SHIRA.....	101 Hubbard Avenue
<i>Assistant in Anatomy and Physiology</i>	
HARRIET N. TOWNSEND.....	53 West Eleventh Avenue
<i>Assistant in Library</i>	
MAUD DOROTHY JEFFREY.....	161 Fourteenth Avenue
<i>Reference Librarian</i>	
GERTRUDE STOWELL KELLICOTT.....	1720 Summit Street
<i>Accession Librarian</i>	
CHARLES W. REEDER.....	2172 Indianola Avenue
<i>Reference Librarian</i>	
BLANCHE L. SEIPEL.....	312 West Seventh Avenue
<i>Catalogue Assistant</i>	

* Part time.

DONALD LEIDIGH.....	47 King Avenue
<i>Accession Assistant</i>	
BERTHA M. SCHNEIDER.....	1404 Wesley Avenue
<i>Head Cataloguer</i>	
ALICE G. STEPHENS.....	101 Twelfth Avenue
<i>Cataloguer</i>	
ALICE D. MCKEE.....	84 West Fifth Avenue
<i>Cataloguer</i>	
ALICE L. MORRIS.....	241 West Eighth Avenue
<i>Library Assistant</i>	
LOUISE F. SCHOENEWEIS.....	910 South High Street
<i>Library Assistant</i>	
JUSTUS H. DICE.....	124 West Tenth Avenue
<i>Reference Assistant</i>	
NELSON MCCOMBS.....	825 Franklin Avenue
<i>Library Assistant</i>	
L. BERNICE BROWN.....	82 East Eleventh Avenue
<i>Library Assistant</i>	
ROGER B. MORROW.....	78 North Ohio Avenue
<i>Night Assistant in Library</i>	
ROY HABER.....	160 West Ninth Avenue
<i>Night Assistant in Library</i>	
CLAUDE P. MCNEIL.....	102 Chittenden Avenue
<i>Fellow in Chemistry</i>	
ETHEL MORRIS.....	208 West Eighth Avenue
<i>Fellow in English</i>	
EDWARD C. HYTREE.....	60 Fourteenth Avenue
<i>Fellow in Chemistry</i>	
EVA M. CAMPBELL.....	1975 Indianola Avenue
<i>Fellow in English</i>	
E. BASIL HAWES.....	207 West Eighth Avenue
<i>Fellow in Agricultural Chemistry</i>	
CARL JOHN DRAKE.....	128 West Tenth Avenue
<i>Fellow in Zoology and Entomology</i>	
CARLETON E. CURRAN.....	1557 Hunter Street
<i>Fellow in Chemistry</i>	

- VERONA M. DOLLINGER.....34 West Frambes Avenue
Fellow in English
- MARY BLANCHE HOWE.....107 West Eleventh Avenue
Fellow in Zoology and Entomology.
- ROBERT M. SALTER.....70 West Woodruff Avenue
Fellow in Agricultural Chemistry
- FREDERICK J. SALTER.....43 Chittenden Avenue
Fellow in Agricultural Chemistry
- CHARLES R. PARKINSON.....397 Seventeenth Avenue
Fellow in Chemistry
- GERTRUDE L. ROBINSON.....Worthington, Ohio
Fellow in English
- WALTER W. PLOCH.....17 Sixteenth Avenue
Fellow in English
- KATHRYN M. ROESER.....169 West Tenth Avenue
Fellow in English
- RAY R. ROBINSON.....1627 Highland Street
Fellow in Geology
- WAHNITA DeLONG169 West Tenth Avenue
Fellow in English
- LEE I. SMITH.....1342 East Fulton Street
Fellow in Chemistry
- C. R. McCROSKY.....60 Fourteenth Avenue
Fellow in Chemistry
- A. E. SANTSCHI.....367 West Tenth Avenue
Fellow in Physics
- ERNEST SIEGFRIED1342 East Fulton Street
Fellow in English
- ROY F. SOMMER.....127 West Eighth Avenue
Fellow in Physics
- NELLIE SWARTZEL191 West Eighth Avenue
Fellow in Agricultural Chemistry
- CLIFFORD C. WATERHOUSE.....56 West Patterson Avenue
Fellow in Chemistry
- BEULAH L. WARDELL.....75 West Eleventh Avenue
Fellow in English

- WALTER C. WEIDLER.....195 West Ninth Avenue
Fellow in Economics and Sociology
- MARGUERITE ICKES1814 North High Street
Fellow in Zoology and Entomology
- MARY E. KLINE.....180 West Fifth Avenue
Fellow in Chemistry
- BLANCHE MCAVOY1866½ North High Street
Fellow in Botany
- F. H. LATHROP.....1612 Highland Street
Fellow in Zoology and Entomology
- EMILY MARIE DIETZ.....69 Eighteenth Avenue
Fellow in Psychology
- A. A. BENEDICT.....1627 Highland Street
Fellow in Physics
- HOWARD L. DUNLAP.....133 West Tenth Avenue
Fellow in Chemistry
- ISAAC W. GEIGER.....141 West Eleventh Avenue
Fellow in Chemistry
- EMMA E. ROWER.....1975 Indianola Avenue
Fellow in English
- ALBERT R. SHADLE.....1265 South High Street
Fellow in Zoology and Entomology
- CHARLES G. DISHONG.....75 West Tenth Avenue
Fellow and Assistant in English
- GEBHARD STEGEMAN107 West Eleventh Avenue
Fellow in Chemistry
- RALPH REO MURPHY.....239 West Tenth Avenue
Fellow and Assistant in Latin
- ESTELLA H. NEIGHBOR.....19½ East Eleventh Avenue
Fellow in English
- EVELYN OSBORN485 King Avenue
Fellow in Zoology and Entomology
- HELEN MORNINGSTAR1275 Franklin Avenue
Fellow in English
- THOMAS E. MOORE.....1464 Highland Street
Fellow in Chemistry

CHARLES J. HUFNAGEL.....	1463 Neil Avenue
<i>Fellow in Bacteriology</i>	
IRA C. CALLANDER.....	103 West Ninth Avenue
<i>Student Assistant in Mine Engineering</i>	
HENRY G. COON.....	220 East Blake Avenue
<i>Student Assistant in Mine Engineering</i>	
CHARLES WARNER STAFFORD.....	98 Twelfth Avenue
<i>Student Assistant in Mine Engineering</i>	
ROSE GORMLEY	Clintonville, Ohio
<i>Student Assistant in Botany</i>	
LANDIS H. BRUBAKER.....	80 East Lane Avenue
<i>Student Assistant in Mechanics</i>	
THEO. H. PYLE.....	317 West Tenth Avenue
<i>Student Assistant in Engineering Drawing</i>	
LILLIAN E. HUMPHREY.....	1866½ North High Street
<i>Student Assistant in Botany</i>	
FRED G. TARBOX.....	99 Chittenden Avenue
<i>Student Assistant in Mechanical Engineering</i>	
ELIZABETH COURTNEY	1622 Mt. Vernon Avenue
<i>Student Assistant in Physical Education</i>	
OTTO F. WILKINSON.....	1609 Highland Street
<i>Student Assistant in Economics and Sociology</i>	
MARY ENGLISH	227 East Rich Street
<i>Student Assistant in American History</i>	
EUGENE H. ROSEBOOM.....	191 West Ninth Avenue
<i>Student Assistant in American History</i>	
GOULD LEACH HARRIS.....	1123 Highland Street
<i>Student Assistant in Economics and Sociology</i>	
VERA MCCOY	28 West Lane Avenue
<i>Student Assistant in Bacteriology</i>	
JOHN E. NORMAN.....	71 West Ninth Avenue
<i>Student Assistant in Pharmacy</i>	
J. C. BOWMAN.....	78 West Norwich Avenue
<i>Student Assistant in Pharmacy</i>	
*WILLIAM BAUCHMILLER	138 West Ninth Avenue
<i>Student Assistant in Zoology and Entomology</i>	
*VERNON R. HABER.....	160 West Ninth Avenue
<i>Student Assistant in Zoology and Entomology</i>	

* Part time.

AGRICULTURAL EXTENSION DEPARTMENT

A. B. GRAHAM.....	168 West Twelfth Avenue
<i>Superintendent of Agricultural Extension</i>	
M. A. BACHTELL.....	31 Twelfth Avenue
<i>Assistant Professor of Soil Fertility—Agricultural Extension</i>	
GEORGE B. CRANE.....	24 East Third Avenue
<i>Agricultural Extension Editor</i>	
R. B. CRUICKSHANK.....	516 West Sixth Avenue
<i>Instructor in Horticulture—Agricultural Extension</i>	
H. E. ESWINE.....	1240 East Long Street
<i>Assistant in Agricultural Extension</i>	
W. H. PALMER.....	8 Chittenden Avenue
<i>Instructor in Animal Husbandry—Agricultural Extension</i>	
CLARK S. WHEELER.....	31 Twelfth Avenue
<i>Assistant in Agricultural Extension</i>	
HELEN SCOTT.....	57 West Tenth Avenue
<i>Assistant in Home Economics—Agricultural Extension</i>	
MAUD OKEY.....	297 West Tenth Avenue
<i>Assistant in Home Economics—Agricultural Extension</i>	
TREVA KAUFFMAN.....	297 West Tenth Avenue
<i>Assistant in Home Economics—Agricultural Extension</i>	
MARY BETZ.....	1734 Summit Street
<i>Assistant in Home Economics—Agricultural Extension</i>	
LAURA ANDERSON.....	297 West Tenth Avenue
<i>Assistant in Home Economics—Agricultural Extension</i>	

FACULTY

The instructional force of the University for the year ending June 30, 1914, was classified as follows: President, 1; Emeritus President and Professor, 1; Emeritus Professors, 3; Professors, 101; Associate Professors, 9; Assistant Professors, 51; Instructors, 56; Assistants, 34; Fellows, 44; Student Assistants, 18; High School Visitors, 2; Curator, 1; Total, 321.

The Library staff: Librarian, 1; Assistants, 16.

The titles and compensation of members of the Faculty and of other officer and employees of the University are given in the following statement.

APPENDIX IV.

In compliance with Section 7 of the Organic Act, passed by the legislature of Ohio, May 1, 1878 (Bates' Annotated Statutes, Sec. 4105-42), which requires the list of "the number of professors, officers, teachers and other employees, and the compensation of each, to be annually reported," the following report is submitted:

Name of Employee.	Position.	Salary.
William Oxley Thompson.	President	\$7,000 00
Alfred Vivian	Professor of Agricultural Chemistry..	3,000 00
John F. Lyman.....	Associate Professor of Agricultural Chemistry	1,800 00
Thomas G. Phillips.....	Instructor in Agricultural Chemistry..	1,000 00
E. Basil Hawes.....	Fellow in Agricultural Chemistry.....	300 00
F. J. Salter.....	Fellow in Agricultural Chemistry.....	300 00
R. M. Salter.....	Fellow in Agricultural Chemistry.....	300 00
Nellie Swartzel	Fellow in Agricultural Chemistry.....	300 00
Arthur G. McCall.....	Professor in Agronomy.....	2,200 00
H. C. Ramsower.....	Professor of Rural Engineering.....	2,000 00
George Livingston	Assistant Professor of Agronomy.....	1,200 00
Malcolm Sewell	Assistant in Agronomy (part time)...	400 00
Malon Yoder	Assistant in Agronomy.....	600 00
Jos. P. Hershberger.....	Assistant in Agronomy (part time)...	500 00
John T. Miller.....	Mechanic	600 00
Charles S. Plumb.....	Professor in Animal Husbandry.....	2,000 00
Freeman S. Jacoby.....	Assistant Professor of Poultry Husbandry	1,500 00
D. J. Kays.....	Assistant Professor of Animal Husbandry	2,000 00
William Hislop	Instructor in Animal Husbandry.....	1,500 00
Gilbert Gusler	Instructor in Animal Husbandry.....	1,500 00
James R. Wiley.....	Assistant in Animal Husbandry.....	1,000 00
D. M. Fyffe.....	Superintendent of Live Stock.....	1,200 00
James A. King.....	Assistant in Farm Engineering (Winter Course)	400 00
O. H. Pollock.....	Assistant in Animal Husbandry (Winter Course)	300 00
J. C. Hedge.....	Assistant in Dairying (Winter Course)	300 00
B. B. Herrick.....	Assistant in Butter-making (Winter Course)	100 00
Fred Nobs	Assistant in Cheese-making (Winter Course)	150 00
Malcolm Sewell	Assistant in Agronomy (Winter Course)	100 00
J. H. Schaffner.....	Professor of Botany.....	2,250 00
R. F. Griggs.....	Assistant Professor of Botany.....	1,500 00
A. Dachnowski.....	Assistant Professor of Botany.....	1,700 00
Freda Detmers	Instructor in Botany.....	1,300 00
W. G. Stover	Instructor in Botany.....	1,400 00
Blanche McAvoy	Fellow in Botany.....	300 00
Rose Gormley	Student Assistant in Botany.....	150 00
Lillian E. Humphrey.....	Student Assistant in Botany.....	150 00
F. B. H. Brown.....	Florist	600 00
Oscar Erf	Professor of Dairying.....	2,500 00
O. C. Cunningham.....	Assistant Professor of Dairying.....	1,700 00
W. L. Clevenger.....	Instructor in Butter-Making.....	1,500 00
Robert B. Stoltz.....	Instructor in Dairying.....	1,000 00

Name of Employee.	Position.	Salary.
W. R. Lazenby.....	Professor of Forestry.....	2,500 00
Norman E. Scherer.....	Assistant Professor of Forestry.....	1,500 00
Otto W. Pflueger.....	Assistant in Forestry.....	900 00
Edna N. White.....	Professor of Home Economics.....	2,100 00
Anna F. Blohm.....	Instructor in Home Economics.....	1,800 00
Maude C. Hathaway.....	Instructor in Home Economics.....	1,200 00
Anna R. Van Meter.....	Assistant Professor of Home Economics.....	1,500 00
Sarah Stimmel.....	Assistant in Home Economics.....	750 00
Grace G. Walker.....	Assistant in Home Economics.....	750 00
Mabelle Rogers.....	Assistant in Home Economics.....	750 00
Lila Skinner.....	Assistant in Home Economics.....	750 00
Marian Lucas Garvin.....	Instructor in Home Economics (part time).....	510 00
Cora Elliott.....	Maid.....	375 00
Wendell Paddock.....	Professor of Horticulture.....	2,750 00
V. H. Davis.....	Assistant Professor of Horticulture.....	1,800 00
L. M. Montgomery.....	Assistant Professor of Horticulture.....	1,800 00
Clayton Long.....	Assistant in Horticulture.....	600 00
J. Warren Smith.....	Professor of Meteorology.....	500 00
*Homer C. Price.....	Professor of Rural Economics and Dean of the College of Agriculture (4½ months).....	1,874 97
Thomas D. Phillips.....	Instructor in Rural Economics.....	1,200 00
Verle C. Smith.....	Assistant to the Dean (part time).....	1,250 00
A. E. Smith.....	Farm Foreman (part time).....	1,083 30
Herbert Osborn.....	Professor of Zoology and Entomology..	2,750 00
F. L. Landacre.....	Professor of Zoology and Entomology..	2,000 00
J. S. Hine.....	Associate Professor of Zoology and Entomology.....	1,600 00
W. M. Barrows.....	Assistant Professor of Zoology and Entomology.....	1,600 00
W. J. Kostir.....	Instructor in Zoology and Entomology..	1,000 00
C. J. Drake.....	Fellow in Zoology and Entomology.....	300 00
Marguerite Ickes.....	Fellow in Zoology and Entomology.....	300 00
F. H. Lathrop.....	Fellow in Zoology and Entomology.....	300 00
Evelyn Osborn.....	Fellow in Zoology and Entomology.....	300 00
A. R. Shadle.....	Fellow in Zoology and Entomology.....	300 00
Mary Blanche Howe.....	Fellow in Zoology and Entomology.....	300 00
W. A. Price.....	Fellow in Zoology and Entomology.....	300 00
William Bauchmiller.....	Student Assistant in Zoology and Entomology (part time).....	45 00
V. R. Haber.....	Student Assistant in Zoology and Entomology (part time).....	45 00
George W. Knight.....	Professor of American History.....	3,000 00
H. C. Hockett.....	Professor of American History.....	2,000 00
A. M. Schlesinger.....	Instructor in American History.....	1,000 00
Mary English.....	Student Assistant in American History..	150 00
Eugene H. Roseboom.....	Student Assistant in American History..	150 00
A. M. Bleile.....	Professor of Anatomy and Physiology..	2,750 00
R. J. Seymour.....	Associate Professor of Anatomy and Physiology.....	1,700 00
E. P. Durrant.....	Assistant Professor of Anatomy and Physiology.....	1,400 00
Edgar M. Allen.....	Instructor in Anatomy and Physiology..	1,000 00
Adolph Feiel.....	Assistant in Anatomy and Physiology...	400 00
H. E. Boucher.....	Assistant in Anatomy and Physiology (part time).....	175 00
G. O. Burrell.....	Assistant in Anatomy and Physiology...	250 00

* Member Agricultural Commission. Balance of salary paid by Commission

Name of Employee.	Position.	Salary.
J. L. Busby.....	Assistant in Anatomy and Physiology (part time)	75 00
Don F. Russell.....	Assistant in Anatomy and Physiology (part time)	100 00
D. D. Shira.....	Assistant in Anatomy and Physiology (part time)	150 00
C. B. Morrey.....	Professor of Bacteriology.....	2,750 00
W. A. Starin.....	Assistant Professor of Bacteriology.....	1,700 00
A. M. Jansen.....	Instructor in Bacteriology (part time) ..	600 00
Henry B. Froning.....	Instructor in Bacteriology (part time) ..	500 00
Charles J. Hufnagel.....	Fellow in Bacteriology.....	300 00
Vera McCoy.....	Student Assistant in Bacteriology.....	300 00
J. E. Hagerty.....	Professor of Economics and Sociology.....	2,000 00
*M. B. Hammond.....	Professor of Economics and Sociology.....	.....
F. A. McKenzie.....	Professor of Economics and Sociology.....	2,000 00
O. C. Lockhart.....	Professor of Economics and Sociology.....	2,000 00
C. C. Huntington.....	Professor of Economics and Sociology.....	2,000 00
Clyde O. Ruggles.....	Assistant Professor of Economics and Sociology	2,000 00
Stockton Raymond	Assistant Professor of Economics and Sociology (part time)	120 00
Carl E. Parry.....	Assistant Professor of Economics and Sociology	1,500 00
Henry F. Walradt.....	Assistant Professor of Economics and Sociology	1,400 00
Beatrice Sheets	Instructor in Economics and Sociology..	1,400 00
Emilie C. Renz.....	Instructor in Economics and Sociology (part time)	* 990 00
Ralph B. Wilson.....	Assistant in Economics and Sociology..	600 00
Walter C. Weidler.....	Fellow in Economics and Sociology.....	300 00
Gould Leach Harris.....	Student Assistant in Economics and Sociology (part time)	240 00
Otto F. Wilkinson.....	Student Assistant in Economics and Sociology (part time)	195 00
J. V. Denney.....	Professor of English and Dean of the College of Arts, Philosophy and Science	3,250 00
J. R. Taylor.....	Professor of English.....	2,400 00
G. H. McKnight.....	Professor of English.....	2,000 00
W. L. Graves.....	Professor of English.....	2,000 00
C. S. Duncan.....	Professor of English.....	2,000 00
L. A. Cooper.....	Assistant Professor of English.....	1,500 00
E. L. Beck.....	Assistant Professor of English.....	1,500 00
H. F. Harrington.....	Assistant Professor of English.....	1,500 00
V. A. Ketcham.....	Assistant Professor of English.....	1,500 00
J. Forest Craig.....	Instructor in English.....	1,000 00
Charles G. Dishong.....	Fellow and Assistant in English.....	600 00
Estella Neighbor.....	Fellow in English.....	800 00
Verona Dollinger.....	Fellow in English.....	300 00
Eva M. Campbell.....	Fellow in English.....	300 00
Kathryn M. Roeser.....	Fellow in English.....	300 00
Ethel Morris.....	Fellow in English.....	300 00
Ernest Siegfried.....	Fellow in English.....	300 00
Gertrude L. Robinson.....	Fellow in English.....	300 00
W. W. Ploch.....	Fellow in English.....	300 00
Helen Morningstar.....	Fellow in English.....	300 00
Wahnita DeLong.....	Fellow in English.....	300 00
Emma Rower.....	Fellow in English.....	300 00
Beulah Wardell.....	Fellow in English.....	300 00

* Member Industrial Commission.

Name of Employee.	Position.	Salary.
W. H. Siebert.....	Professor of European History.....	2,750 00
E. H. McNeal.....	Professor of European History.....	2,000 00
Clarence Perkins	Assistant Professor of European History.	1,800 00
Wilmer C. Harris.....	Instructor in European History.....	1,000 00
C. S. Prosser.....	Professor of Geology.....	2,750 00
J. A. Bownocker.....	Professor of Inorganic Geology and Curator of Museum.....	2,300 00
Thos. McD. Hills.....	Assistant Professor of Geology.....	1,500 00
Walter A. Verweibe.....	Instructor in Geology.....	1,000 00
Clara G. Mark.....	Instructor in Geology (part time).....	850 00
Ray R. Robinson.....	Fellow in Geology (part time).....	210 00
Kenneth Cottingham	Fellow in Geology (part time).....	90 00
M. B. Evans.....	Professor of German.....	2,750 00
B. A. Eisenlohr.....	Professor of German.....	2,000 00
May Thomas.....	Assistant Professor of German.....	1,400 00
Ludwig Lewisohn	Assistant Professor of German.....	1,700 00
R. O. Busey.....	Assistant Professor of German.....	1,500 00
Sarah Barrows	Assistant Professor of German.....	1,400 00
H. C. Keidel.....	Instructor in German.....	1,200 00
Theodore F. Kotz.....	Instructor in German.....	1,000 00
R. B. Wildermuth.....	Assistant in German.....	500 00
*J. R. Smith.....	Professor of Greek (part time).....	2,250 00
R. V. Schmitt.....	Acting Professor of Greek (part time)...	700 00
Martha G. Elden (Mrs.)..	Acting Instructor in Greek (part time)...	200 00
S. C. Derby.....	Professor of Latin.....	2,000 00
A. W. Hodgman.....	Professor of Latin.....	2,100 00
W. S. Elden.....	Professor of Latin.....	2,100 00
Ralph R. Murphy.....	Assistant and Fellow in Latin.....	600 00
J. A. Leighton.....	Professor of Philosophy.....	2,750 00
A. E. Davies.....	Professor of Philosophy.....	2,000 00
H. R. Spencer.....	Professor of Political Science.....	2,500 00
F. W. Coker.....	Assistant Professor of Political Science.	1,800 00
B. L. Bowen.....	Professor of Romance Languages.....	2,750 00
C. A. Bruce.....	Professor of Romance Languages.....	2,000 00
E. S. Ingraham.....	Professor of Romance Languages.....	2,000 00
T. E. Hamilton.....	Assistant Professor of Romance Lan- guages	1,500 00
G. S. Chapin.....	Assistant Professor of Romance Lan- guages	1,400 00
H. F. Dunham.....	Instructor in Romance Languages.....	1,000 00
O. F. Bond.....	Instructor in Romance Languages.....	1,000 00
J. K. Ditchy.....	Instructor in Romance Languages.....	1,000 00
Alexander P. Moore.....	Instructor in Romance Languages.....	1,200 00
Margaret S. F. Dachnowski	Instructor in Art.....	1,500 00
Alice Robinson.....	Instructor in Art.....	1,200 00
Mary Louise Shepherd....	Instructor in Art.....	1,000 00
F. P. Graves.....	Professor of History and Philosophy of Education (part time).....	550 00
C. F. Lavell.....	Professor of History and Philosophy of Education (part time).....	300 00
A. R. Mead.....	Instructor in History and Philosophy of Education (part time).....	400 00
Eldon L. Usry.....	Assistant Professor of Manual Training.	1,800 00
T. S. Lowden.....	Associate Professor of Principles and Practice of Education.....	1,800 00
D. R. Major.....	Professor of Psychology.....	2,500 00
†Thomas H. Haines.....	Professor of Psychology.....	.....
George F. Arps.....	Professor of Psychology.....	2,500 00
Rudolph Pintner	Instructor in Psychology.....	1,600 00

* Died Feb. 15, 1914. † On leave, 1913-14.

Name of Employee.	Position.	Salary.
A. P. Weiss.....	Instructor in Psychology.....	1,200 00
Emily M. Dietz.....	Fellow in Psychology (part time).....	180 00
W. W. Boyd.....	Professor of School Administration and Dean of the College of Education....	3,000 00
G. A. Bricker.....	Assistant Professor of Agricultural Education	1,750 00
J. N. Bradford.....	Professor of Architecture.....	1,200 00
C. St. J. Chubb.....	Professor of Architecture.....	2,000 00
F. H. Haskett.....	Instructor in Architecture.....	1,500 00
Wilbert C. Ronan.....	Instructor in Architecture.....	1,000 00
H. C. Lord.....	Professor of Astronomy.....	2,750 00
E. S. Manson, Jr.....	Associate Professor of Astronomy.....	1,700 00
Edward Orton, Jr.....	Professor of Ceramic Engineering and Dean of the College of Engineering...	3,250 00
Arthur S. Watts.....	Professor of Ceramic Engineering.....	3,000 00
Carl B. Harrop.....	Assistant Professor of Ceramic Engi- neering	1,500 00
J. C. Lysatt.....	Technician	600 00
S. A. Norton.....	Emeritus Professor of Chemistry.....	1,250-00
William McPherson	Professor of Chemistry and Dean of the Graduate School.....	3,250 00
W. E. Henderson.....	Professor of Inorganic and Physical Chemistry	2,500 00
C. W. Foulk.....	Professor of Analytical Chemistry.....	2,100 00
W. L. Evans.....	Professor of Chemistry.....	2,500 00
J. R. Withrow.....	Professor of Chemistry.....	2,250 00
Charles Ford Long.....	Assistant Professor of Chemistry.....	1,500 00
C. E. Boord.....	Instructor in Chemistry.....	1,200 00
J. E. Day.....	Assistant in Chemistry.....	700 00
Elmer Hockett.....	Assistant in Chemistry.....	700 00
H. D. Holler.....	Assistant in Chemistry.....	700 00
J. B. Dickson.....	Assistant in Chemistry.....	700 00
R. C. Hummell.....	Assistant in Chemistry.....	700 00
Edward Schmidt	Assistant in Chemistry.....	700 00
E. C. Hytree.....	Fellow in Chemistry.....	300 00
C. R. McCrosky.....	Fellow in Chemistry.....	300 00
C. P. McNeil.....	Fellow in Chemistry.....	300 00
C. R. Parkinson.....	Fellow in Chemistry.....	300 00
Lee I. Smith.....	Fellow in Chemistry.....	300 00
G. Stegeman	Fellow in Chemistry.....	300 00
C. C. Waterhouse.....	Fellow in Chemistry.....	300 00
Howard L. Dunlap.....	Fellow in Chemistry.....	300 00
Lloyd Copeland.....	Fellow in Chemistry (part time).....	60 00
Thomas E. Moore.....	Fellow in Chemistry.....	300 00
C. E. Curran.....	Fellow in Chemistry.....	300 00
I. W. Geiger.....	Fellow in Chemistry.....	300 00
Mary E. Kline.....	Fellow in Chemistry.....	300 00
C. E. Sherman.....	Professor of Civil Engineering.....	2,500 00
F. H. Eno.....	Professor of Municipal Engineering....	2,250 00
C. T. Morris.....	Professor of Structural Engineering....	3,000 00
R. K. Schlafly.....	Assistant Professor of Civil Engineering	1,700 00
W. S. Hindman.....	Assistant Professor of Civil Engineering	1,500 00
G. F. Schlesinger.....	Instructor in Civil Engineering.....	1,200 00
Roscoe C. Sloane.....	Instructor in Civil Engineering.....	1,200 00
Earl W. McCoy.....	Assistant in Civil Engineering.....	750 00
F. C. Caldwell.....	Professor of Electrical Engineering....	2,500 00
A. E. Flowers.....	Professor of Electrical Engineering....	2,000 00
J. E. Shepardson.....	Instructor in Electrical Engineering....	1,100 00
R. A. Brown.....	Instructor in Electrical Engineering....	1,100 00
R. M. Moody.....	Assistant in Electrical Engineering....	700 00
W. R. Alexander.....	Machinist	1,020 00

Name of Employee.	Position.	Salary.
Elton W. Carlisle.....	Machinist's Helper	480 00
Thomas E. French.....	Professor of Engineering Drawing.....	3,000 00
Robert Meiklejohn	Assistant Professor of Engineering Drawing	1,700 00
A. C. Harper.....	Instructor in Engineering Drawing.....	1,300 00
O. E. Williams.....	Instructor in Engineering Drawing.....	1,400 00
Cree Sheets	Instructor in Engineering Drawing.....	1,400 00
F. W. Ives.....	Instructor in Engineering Drawing.....	1,300 00
Wm. D. Turnbull.....	Instructor in Engineering Drawing.....	1,300 00
W. J. Norris.....	Instructor in Engineering Drawing.....	800 00
E. J. Gilbert.....	Instructor in Engineering Drawing.....	1,100 00
Theo. H. Pyle.....	Student Assistant in Engineering Draw- ing	300 00
F. E. Sanborn.....	Professor of Industrial Arts.....	2,200 00
W. A. Knight.....	Associate Professor of Machine Shop Practice	1,600 00
C. M. Beem.....	Instructor in Pattern-Making and Founding	1,300 00
A. A. Case.....	Instructor in Vise-Work.....	1,210 00
J. A. Foust.....	Instructor in Forging.....	1,050 00
U. W. Denman.....	Assistant in Pattern-Making and Found- ing	990 00
Robert E. Smith.....	Assistant in Wood-working.....	800 00
John J. Breckur.....	Assistant in Founding.....	880 00
Perry L. Wright.....	Assistant in Forging (part time).....	680 00
R. D. Bohannon.....	Professor of Mathematics.....	2,750 00
G. W. McCoard.....	Professor of Mathematics.....	1,800 00
K. D. Swartzel.....	Professor of Mathematics.....	2,200 00
H. W. Kuhn.....	Professor of Mathematics.....	2,200 00
S. E. Razor.....	Professor of Mathematics.....	1,800 00
C. L. Arnold.....	Associate Professor of Mathematics.....	1,600 00
C. C. Morris.....	Assistant Professor of Mathematics.....	1,600 00
J. B. Preston.....	Assistant Professor of Mathematics.....	1,500 00
Grace Bareis	Assistant Professor of Mathematics.....	1,300 00
C. J. West.....	Assistant Professor of Mathematics.....	1,500 00
Hortense Rickard	Assistant in Mathematics.....	700 00
William T. Magruder.....	Professor of Mechanical Engineering.....	2,750 00
F. W. Marquis.....	Professor of Steam Engineering.....	2,500 00
Horace Judd	Associate Professor of Experimental Engineering	1,700 00
A. I. Brown.....	Instructor in Mechanical Engineering...	1,000 00
R. H. Neilan.....	Assistant in Mechanical Engineering...	750 00
Fred G. Tarbox.....	Student Assistant in Mechanical Engi- neering	300 00
J. J. Davis.....	Machinist	1,020 00
Roy Pratt	Machinist's Helper	840 00
J. E. Boyd.....	Professor of Mechanics.....	2,500 00
E. F. Coddington.....	Professor of Mechanics.....	2,400 00
L. H. Brubaker.....	Student Assistant in Mechanics.....	300 00
E. E. Somermeier.....	Professor of Metallurgy.....	1,850 00
D. J. Demorest.....	Professor of Metallurgy.....	2,000 00
E. C. Smith.....	Instructor in Metallurgy (2nd semester)	500 00
F. A. Ray.....	Professor of Mine Engineering.....	2,000 00
Wells H. Minor.....	Assistant Professor of Mine Engineer- ing	1,800 00
Ira C. Callendar.....	Student Assistant in Mine Engineering...	300 00
Charles W. Stafford.....	Student Assistant in Mine Engineering...	300 00
H. G. Coon.....	Student Assistant in Mine Engineering (1st semester)	150 00
W. J. McCaughey.....	Assistant Professor of Mineralogy.....	1,800 00
A. D. Cole.....	Professor in Physics.....	3,000 00

Name of Employee.	Position.	Salary.
R. F. Earhart.....	Professor in Physics.....	2,000 00
F. C. Blake.....	Professor in Physics.....	2,000 00
S. J. Barnett.....	Professor in Physics.....	2,000 00
A. W. Smith.....	Assistant Professor of Physics.....	1,900 00
Charles Sheard.....	Assistant Professor of Physics.....	1,700 00
H. G. Heil.....	Instructor in Physics.....	1,200 00
Alva W. Smith.....	Assistant in Physics.....	700 00
Ray Sommer.....	Fellow in Physics.....	300 00
A. E. Santschi.....	Fellow in Physics.....	300 00
A. A. Benedict.....	Fellow in Physics.....	300 00
Arthur P. Freund.....	Mechanician.....	1,200 00
John J. Adams.....	Professor of Law and Dean of the College of Law.....	5,000 00
W. H. Page.....	Professor of Law.....	2,000 00
George W. Rightmire.....	Professor of Law.....	3,000 00
A. H. Tuttle.....	Professor of Law.....	3,000 00
W. B. Cockley.....	Assistant Professor of Law.....	2,000 00
C. E. Blanchard.....	Assistant Professor of Law.....	1,800 00
J. A. Shauck.....	Professor of Law.....	1,000 00
E. B. Dillon.....	Professor of Law.....	800 00
E. B. Kinkead.....	Professor of Law.....	800 00
G. B. Kauffman.....	Professor of Pharmacy and Dean of the College of Pharmacy.....	2,000 00
C. A. Dye.....	Professor of Pharmacy.....	2,000 00
Edward Spease.....	Instructor in Pharmacy.....	1,500 00
J. C. Bowman.....	Student Assistant in Pharmacy.....	400 00
J. E. Norman.....	Student Assistant in Pharmacy.....	300 00
D. S. White.....	Professor of Veterinary Medicine and Dean of the College of Veterinary Medicine.....	3,000 00
S. Sisson.....	Professor of Comparative Anatomy.....	3,000 00
O. V. Brumley.....	Professor of Veterinary Surgery.....	2,750 00
A. G. G. Richardson.....	Professor of Veterinary Pathology.....	2,500 00
J. H. Snook.....	Assistant Professor of Veterinary Sur- gery.....	1,900 00
F. A. Lambert.....	Assistant Professor of Comparative An- atomy.....	1,700 00
Ernest Scott.....	Assistant Professor of Pathology.....	750 00
J. N. Shoemaker.....	Assistant Professor of Veterinary Med- icine.....	1,500 00
Max Wershow.....	Assistant in Veterinary Medicine.....	780 00
R. E. Rebrassier.....	Clerk, Veterinary Hospital (part time)	56 67
Louis H. Smith.....	Clerk, Veterinary Hospital (part time)	43 33
Charles A. Hersom.....	Technician (part time).....	220 00
G. L. Converse.....	Professor of Military Science and Tac- tics.....	450 00
Gustav Bruder.....	Band Master.....	350 00
H. S. Wingert.....	Professor of Physical Education.....	2,750 00
Alice Littlejohn Goetz.....	Associate Professor of Physical Educa- tion.....	1,700 00
Henry C. Ohlson.....	Instructor in Physical Education.....	1,300 00
George H. Bartholomew.....	Instructor in Physical Education.....	1,200 00
Dora Sauer.....	Assistant in Physical Education.....	800 00
Elizabeth Courtney.....	Student Assistant in Physical Education	300 00
Lola Stout.....	Maid.....	360 00
Olive Jones.....	Librarian.....	2,000 00
Harriet N. Townshend.....	Assistant in Library.....	700 00
Gertrude S. Kellicott.....	Accession Librarian.....	1,320 00
Maud Jeffrey.....	Reference Librarian.....	1,320 00
Charles W. Reeder.....	Reference Librarian.....	1,145 00
Mirpah G. Blair.....	Head Cataloguer (part time).....	50 00

Name of Employee.	Position.	Salary.
Blanche L. Seipel.....	Cataloguing Assistant	720 00
Bertha M. Schneider.....	Head Cataloguer	1,020 00
Justice Howard Dice.....	Reference Assistant (part time).....	500 00
Donald Leidigh	Accession Assistant	720 00
Alice Morris	Library Assistant	700 00
Louise Schoeneweis	Library Assistant	850 00
Alice G. Stephens.....	Assistant Cataloguer	720 00
Alice D. McKee.....	Cataloguer	840 00
Nelson McCombs	Library Assistant	600 00
L. Berniece Brown.....	Library Assistant (part time).....	500 00
Roger B. Morrow.....	Night Assistant	300 00
Roy Haber	Night Assistant	300 00
Lillian Nippert	Library Assistant (part time).....	60 00
F. B. Pearson.....	High School Visitor.....	2,300 00
G. W. Twiss.....	High School Visitor.....	2,000 00
Caroline M. Breyfogle.....	Dean of Women.....	2,000 00
Katharine H. Duncan.....	Executive Clerk	1,500 00
Anna M. Long.....	Stenographer, President's Office (part time).....	165 00
Marie Bowman	Stenographer, President's Office (part time).....	141 67
Eva L. Long.....	Stenographer, President's Office (part time).....	304 34
Carl E. Steeb.....	Secretary of Board of Trustees and Business Manager	4,625 00
R. M. Royer.....	Assistant Purchasing Agent.....	1,900 00
Bess C. Watters.....	Cashier	1,140 00
Iane S. Haskett.....	Chief Clerk	960 00
Mary Kraus	Auditor	960 00
Clara Baker	Bookkeeper	900 00
Helen Zeller	Inventory Clerk	780 00
Louise Kraus	Assistant Bookkeeper	660 00
Maude Blue	Bill Clerk (part time).....	137 50
Ethel Gilkey	Bill Clerk (part time).....	450 00
Florence L. Sharp.....	Cost Clerk (part time).....	330 00
Marie Carroll	Cost Clerk (part time).....	332 00
Hazel Zeller	Clerk (part time).....	375 00
Katherine Vogel	Clerk (part time).....	150 00
F. O. Howell.....	Accountant (part time).....	350 00
Edith D. Cockins.....	Registrar	1,700 00
Lucy M. Taylor.....	Assistant in Registrar's Office.....	900 00
Clara Miller	Assistant in Registrar's Office.....	600 00
Marian Waters	Assistant in Registrar's Office.....	600 00
Helen M. Clarke.....	Assistant in Registrar's Office.....	720 00
W. E. Mann.....	Editor	1,800 00
Jessie B. Bush.....	Stenographer—Editor's Office	600 00
Mary J. Hunter.....	Stenographer and Proof-reader—Editor's Office (part time).....	316 67
Lester E. Wolfe.....	Secretary of Entrance Board	2,000 00
Isabel McNeal	Stenographer—Entrance Board	720 00
R. K. Schlaffly.....	Chairman of Schedule Committee.....	360 00
F. E. Jones.....	Receiving Clerk	1,500 00
H. W. Brewer.....	Store-keeper	1,020 00
H. W. Miller.....	Assistant in Store Room.....	720 00
James Lawson	Checking Clerk	660 00
R. G. Wolf.....	Delivery Man (part time).....	275 00
Raymond Hicks	Delivery Man (part time).....	220 00
Blanche Sullivan	Store Clerk (part time).....	310 00
Willis Fichtelman	Porter	450 00
Nellie Copeland	Stenographer and Library Attendant—Townshend Hall	660 00

Name of Employee.	Position.	Salary.
W. Aimee Obaugh.....	Stenographer—Townshend Hall	660 00
Naomi Haber	Clerk—Townshend Hall (part time)...	332 50
Harriet Schneider	Stenographer—Page Hall	600 00
Ethel Althoff	Stenographer—University Hall	660 00
Bernice Blue	Stenographer—University Hall (part time)	110 00
Mina Kennedy	Stenographer—Hayes Hall	660 00
Candace H. Taylor.....	Stenographer—Robinson Laboratory (part time)	488 33
Nettie Shugert	Stenographer—Brown Hall	600 00
Louise Stickelmyer	Stenographer—Veterinary Laboratory (part time)	605 00
Frances B. Work.....	Stenographer—Entrance Board (part time)	475 00
Mary L. Lahmering.....	Stenographer—Lord Hall	660 00
Lenora Glasgow	Stenographer—College of Engineering..	605 00
Mary E. Thomas.....	Stenographer—Physics and Biological Halls	600 00
Corda C. Smith.....	Stenographer—Chemistry Building	600 00
John F. Madden.....	Clerk—Military Department	500 00
W. F. Felch.....	Clerk—Physical Education Department..	600 00
Charles E. Findlay.....	Clerk—Military Department	500 00
Arthur Van Meter.....	Library Attendant—Department of Economics and Sociology.....	300 00
Dora Hepner	Stenographer—Robinson Laboratory (part time)	375 00
Helen L. Bush.....	Stenographer—Judging Pavilion	600 00
Mary Powers	Matron	400 00
Wm. C. McCracken.....	Superintendent of Buildings & Grounds.	2,500 00
C. M. Dunbar.....	Clerk	720 00
W. B. Booth.....	Assistant Superintendent of Buildings and Grounds	1,500 00
R. C. Kaiser.....	Plumber	1,140 00
H. E. Truxall.....	Painter	960 00
E. Inscho	Plumber's Helper	660 00
Charles M. Hicks.....	Inspector	840 00
E. J. Nutt.....	Janitor—Armory and Gymnasium.....	660 00
Richard Brandon	Janitor—Armory and Gymnasium.....	660 00
J. A. Bond.....	Janitor—Armory and Gymnasium.....	660 00
Robert Hall	Janitor—Biological Hall	690 00
G. C. Denny.....	Janitor—Botany and Horticulture Bldgs.	690 00
Stanley Porter	Student Janitor—Botanical Hall.....	125 00
W. M. Stahl.....	Janitor—Brown Hall	660 00
B. N. Lewis.....	Janitor—Brown and Physics Halls.....	660 00
D. W. Williams.....	Janitor—Chemistry Building	660 00
William Daehler.....	Janitor—Chemistry Building	660 00
William Spurgeon.....	Janitor—Townshend Hall	660 00
M. N. Cook.....	Janitor—Hayes Hall	660 00
Anna M. Miller.....	Janitress—Hayes Hall	450 00
Harry Chantler	Janitor—Library Building	690 00
John O'Rourke	Janitor—Library Building	660 00
O. E. Kiger.....	Janitor—Library Building	660 00
J. J. Weate.....	Janitor—Lord Hall	660 00
W. W. Whitmer.....	Janitor—Lord Hall	660 00
Paul M. Crider.....	Student Janitor—Observatory (part time)	62 50
Carl C. Lowe.....	Student Janitor—Observatory (part time)	237 50
S. A. Williams.....	Janitor—Orton Hall	660 00
Mrs. Lou Cornett.....	Janitress—Orton Hall	450 00
John W. Brown.....	Janitor—Page Hall	660 00

Name of Employee.	Position.	Salary.
Earl Conway	Janitor—University Hall	690 00
Oliver Smith	Janitor—Robinson Laboratory	660 00
R. M. Moore	Janitor—Robinson Laboratory	660 00
Fred Fleischer	Janitor—Townshend Hall	690 00
L. F. Jordan	Janitor—University Hall	660 00
J. W. DeWitte	Janitor—Physics Hall	660 00
Jack Gantz	Janitor—University Hall	660 00
B. F. Tallmadge	Janitor—Veterinary Clinic Building	690 00
G. W. Weygandt	Janitor—Veterinary Clinic Building	690 00
W. H. Walker	Janitor—Veterinary Clinic Building	550 00
E. L. Clements	Janitor—Veterinary Laboratory	690 00
Oscar Metze	Janitor—Veterinary Laboratory	660 00
E. B. Seaman	Janitor—Botany Building	300 00
W. R. Thomas	Janitor—Judging Pavilion	300 00
G. Miller	Janitor—Chemistry Building (part time)	522 50
M. S. Harvey	Elevator Man—University Hall	350 00
William North	Day Policeman	750 00
W. F. Mahaffey	Night Watchman	750 00
John T. Daniels	Night Watchman	750 00
H. S. Brown	Policeman (part time)	580 00
J. P. Covan	Master Mechanic	1,560 00
W. H. Case	Assistant Chief Engineer	1,080 00
Fred Brewer	Engineer	960 00
W. D. Hicks	Engineer	960 00
C. Ashenhurst	First Fireman	840 00
Samuel Lowery	Second Fireman	840 00
Otto Law	Third Fireman	840 00
A. O. Kaiser	Helper	780 00
F. H. Beck	Electrician	1,020 00
G. W. Dillihunt	Assistant Electrician	840 00
B. A. LeBay	Steam Fitter	960 00
I. C. Reasoner	Blacksmith	840 00
J. N. Bradford	University Architect	2,300 00
Ray Sims	Chief Draftsman	1,400 00
Coletta Kelly	Stenographer—University Architect's Office	600 00
A. B. Graham	Superintendent of Agricultural Extension	2,750 00
H. E. Eswine	Assistant in Agricultural Extension	1,200 00
Ruth M. James	Assistant in Agricultural Extension	1,200 00
C. S. Wheeler	Assistant in Agricultural Extension	1,600 00
George B. Crane	Agricultural Extension Editor	1,000 00
M. A. Bachtell	Instructor in Soil Fertility—Agricultural Extension	1,700 00
R. B. Cruickshank	Instructor in Horticulture in Agricultural Extension	1,800 00
W. H. Palmer	Instructor in Animal Husbandry in Agricultural Extension	1,600 00
Maud E. Okey	Assistant in Home Economics—Agricultural Extension (5 mo.)	500 00
Helen Scott	Assistant in Home Economics—Agricultural Extension (6 mo.)	750 00
Mary Betz	Assistant in Home Economics—Agricultural Extension (5 mo.)	500 00
Treva Kuaffman	Assistant in Home Economics—Agricultural Extension (6 mo.)	750 00
Laura Anderson	Assistant in Home Economics—Agricultural Extension (5 mo.)	500 00
Alice McMillan	Stenographer and Schedule Clerk—Agricultural Extension	720 00

Name of Employee.	Position.	Salary.
Luella Searle	Stenographer—Agricultural Extension..	540 00
Elizabeth Hopkins	Multigraph Operator and Stenographer.	360 00

APPENDIX V:

THE WORK OF INSTRUCTORS 1913-1914

Course Subject	First Semester			Second Semester		
	Course Number	Credit Hours	Total No. of Students in all Sections	Course Number	Credit Hours	Total No. of Students in all Sections
AGRICULTURAL CHEMISTRY.						
General Agricultural Chemistry.....	108	5	203	104	5	185
Applications of Chemistry to Agriculture.....	102	4	9	102	4	80
Advanced Soil Analysis.....	109	4	9	110	4	9
Winter Course Soil Fertility.....	106	4	7	106	4	175
Advanced Agricultural Analysis.....	101	4	6	101	4	6
Food Inspection and Analysis.....	123	4	91	123	4	124
Home Economics Chemistry.....	125	4	6	124	4	58
Advanced Household Chemistry.....	121	4-8	6	125	4	6
Research for graduates only.....	131	4-8	6	132	4-8	5
AGRONOMY.						
Farm Equipment.....	103	4	124	101	4	110
Farm Equipment.....	103	4	124	102	3	64
Agricultural Engineering.....	106	4	7	104	4	196
Elementary Soils.....	106	4	111	108	4	71
Field Crop Production.....	109	2	19	111	3	49
Crop Production.....	121	2	18	110	3	29
Seed and Market Grains.....	123	2	15	116	5	2
Grasses and Forage Crops.....	107	4	27	120	5-10	6
Farm Architecture.....	113	3	11	119	2	2
Forest Soils.....	115	5	3	107	4	107
Advanced Soils.....	119	5-10	3	144	4	144
Agricultural Experimentation.....	113	3	11	110	3	29
Field Crop Improvement.....	115	5	3	116	5	2
Advanced Crop Production.....	119	5-10	3	120	5-10	6
Research Work in Soils.....	119	5-10	3	119	2	2
Thesis.....	119	2	3	107	4	107
Farm Crops—Winter Course.....	119	2	3	144	4	144
Farm Engineering—Winter Course.....	119	2	3	144	4	144
AMERICAN HISTORY.						
Political History of the United States.....	101	3	207	102	3	163
Political History of the United States.....	101	3	207	101	3	22
Constitutional History of the U. S.....	107	2	21	108	2	17
Political Parties in the U. S.....	109	2	8	110	2	6
History of American Diplomacy, 1776-1860.....	113	8	5	110	2	6
American Diplomatic History and Problems, 1850-1910.....	123	3	11	114	3	5
Recent History of the United States (1870-1910).....	201	2	6	124	3	11
Reconstruction of the South 1862-1870.....	201	2	6	124	3	11
Political History of the South, 1870-1900.....	115	3	9	202	2	7
History of the West.....	205	2	3	116	3	6
Graduate Seminar (Hayes Administration).....	205	2	3	206	2	3
ANATOMY AND PHYSIOLOGY.						
Physiology.....	101	3	391	102	3	395
Physiology.....	119	3	46	120	3	41
Histology and Historical Chemistry.....	105	5	58	106	5	61
Advanced Physiology.....	115	3	9	118	3	7
Veterinary Physiology.....	115	3	9	114	3	54
Physiology—Short Course.....	107	3	5	107	3	5

THE WORK OF INSTRUCTORS 1913-1914 — Continued

Course Subject	First Semester			Second Semester		
	Course Number	Credit Hours	Total No. of Students in all Sections	Course Number	Credit Hours	Total No. of Students in all Sections
ANIMAL HUSBANDRY.						
Types and Classes of Cattle and Sheep.....	101	4	256	102	4	223
Types and Classes of Horses and Swine.....	123	4	47	130	4	71
Dairy Cattle.....	129	4	106	128	3	33
Types and Breeds of Livestock.....				116	4	22
Feeding and Breeding of Animals.....				118	3	46
Dairy Cattle.....	117	3	39	120	1	11
Poultry Husbandry.....				122	1	10
Poultry Feeding.....				121	1	22
Incubator Practice.....						
Poultry Culture.....						
Breeds of Horses and Sheep.....	103	4	25			
Horse Training—Harness and Vehicle.....	109	2	15			
Principles of Breeding.....				106	4	31
Types and Breeds of Live Stock.....				132	3	39
The Feeding and Care of Animals.....	125	3	12			
Animal Conformation and Stock Judging.....	107	4	13			
Feeding Animals.....	105	3	64			
Live Stock Management.....				108	4	10
Breeds of Cattle and Swine.....				104	4	32
ARCHITECTURE.						
History of Architecture.....	101	3	29	102	3	30
Order Problems.....	103	2	22	104	5	25
Design.....	107	5	14	108	4	15
Decoration and Ornament.....	109	3	11			
Working Drawings.....				110	4	15
Photography.....	111	2	56	112	2	40
Principles of Architectural Composition.....	113	2	13			
Designing.....				114	3	8
Designing.....	115	6	10			
Professional Practice.....				116	4	10
Sanitary Plumbing.....	117	1	11			
Thesis.....				118	5	8
Masonry.....	119	2	10			
Summer Work (between the second and third year).....				120	4	11
Summer Work (between the third and fourth year).....						
Shades, Shadows and Perspective.....	121	4	8	124	3	31
ART.						
Design and Composition.....	101	2	167	102	2	150
Still Life Composition.....	103	2	15	104	2	11
Still Life Composition in Color Values.....	107	2	9	108	2	9
Still Life Composition.....				108	2	7
Study from Head and Costumed Model.....	111	3	8	112	3	9
Advanced Course in Painting from Still Life and Model and Outdoor Sketching.....	115	3	1	116	3	1
Art Appreciation.....	119	1	36	120	1	27
Design and Composition.....	105	2	85	106	1	55
The Teaching of Art.....	117	3	5	118	3	5
Design and Composition.....	109	2	8	110	2	9
ASTRONOMY.						
General Astronomy.....	101	3	44	102	3	30
Astronomy, Geodesy and Least Squares.....	106	3	21	104	3	33
BACTERIOLOGY.						
Pathogenic Bacteriology for Veterinarians.....	101	4	52			
General Bacteriology (Introductory).....	107	3-5	175			
Immunity and Serum Therapy (Advanced).....	117	2-5	45			
Research Work on Making Camembert Cheese.....	121	5	1			
Research Work on Soil Bacteriology.....	123	3-5	2			
Research Work on Roup in Chickens.....	125	3	1			

THE WORK OF INSTRUCTORS 1913-1914 — Continued

Course Subject	First Semester			Second Semester		
	Course Number	Credit Hours	Total No. of Students in all Sections	Course Number	Credit Hours	Total No. of Students in all Sections
BACTERIOLOGY—Concluded.						
Research Work on Physical Chemical Methods for Detecting Antibodies.....	125	3	1			
Special Bacteriology for Pharmacists.....				102	2	19
Special Bacteriology for Short Agricultural Students.....				104	3	7
Human Pathogenic Bacteriology.....				108	2-5	81
Bacteriology of Dairy Products.....				110	2-4	18
Soil Bacteriology.....				112	2-4	12
Water, Sewage, Water Filtration.....				114	2-4	11
Immunity and Serum Therapy (Advanced).....				118	2-4	30
Investigations in Roup of Chickens.....				126	3	1
Investigations in Tuberculosis.....				126	3	1
BIBLICAL LITERATURE, HISTORY AND EXEGESIS.						
Biblical Literature.....	101	3	14	102	3	17
BIBLIOGRAPHY.						
Library and the School.....	101	1	2	102	1	2
Agricultural Bibliography.....	108	1/2	250			
Bibliography for Social Sciences.....	106	1	7	106	1	6
BOTANY.						
General Botany.....	101	4	323	102	4	270
Plant Histology.....	107	2	3			
General Dendrology.....				110	2	39
Elementary Botany.....				112	4	23
Morphology of the Higher Fungi.....	113	8	5			
Plant Pathology.....				116	3	20
Forest Ecology.....	117	4	2	118	4	1
Field Botany.....				120	2	7
Plant Genetics.....	121	2	22			
Plant Physiology.....	125	4	37	126	4	33
General Plant Pathology.....	127	4	10	128	4	6
Systematic Botany.....	129	5	9	130	5	10
Minor Investigations.....	133	5	7	134	5	12
Evolution of Plants.....	135	1	9	136	1	8
Advanced Mycology.....	139	5	2	140	5	2
Dendrology of Conifers.....				142	2	22
Research in Systematic Botany.....	201	10	5	202	10	4
Research in Morphology and Cytology.....	203	10	3	204	10	3
Research in Physiology and Ecology.....	205	10	1	205	10	1
Research in Mycology.....	207	10	1	208	10	2
CERAMIC ENGINEERING.						
Ceramic Manufacture.....	103	5	9	104	5	7
Ceramic Manufacture.....	141	3	14	142	3	8
Ceramic Manufacture.....				141	3	5
Laboratory Work in Ceramics.....	111	5	5	112	5	5
Physical and Chemical Measurements of Clays.....				108	3	13
Colors and Glazes.....				110	2	11
Thesis.....				116	4	5
Laboratory Work in Ceramics—Short Course.....	115	2	1	126	5	1
Ceramic Drawing.....	118	5	5	114	5	5
Ceramic Drawing.....	113	5	5	114	5	5
Ceramic Manufacture.....				142	3	9
Ceramic Calculations.....		Special.		105	2	1
Thesis.....				116	4	1
CHEMISTRY.						
Elementary Chemistry.....	101	4	159	102	4	2
Qualitative Analysis.....				104	2	50
Elementary Chemistry.....	105	4	474	106	4	452
General Chemistry.....	109	4	338	110	4	310
Advanced General Chemistry.....	113	2	80	114	2	65

THE WORK OF INSTRUCTORS 1913-1914—Continued

Course Subject	First Semester			Second Semester		
	Course Number	Credit Hours	Total No. of Students in all Sections	Course Number	Credit Hours	Total No. of Students in all Sections
CHEMISTRY—Concluded.						
Qualitative Analysis	117	3	18	120	4	54
Quantitative Analysis	119	4	39	124	1	54
Chemical Problems	127	5	64	182	2	22
Organic Chemistry	181	2	18	186	2	22
The Teaching of Chemistry				140	4	22
The Reading of Chemical Literature				152	2	22
Thesis	151	2	69	154	3	40
Organic Chemistry	153	3	38	155	3	41
Organic Chemistry	157	3	47	162	2-3	2
Physical Chemistry	161	2-3	6			
Physical Chemistry	165	3-5	13			
Quantitative Analysis	167	3-5	13			
Special Methods of Analysis				168	3-5	37
Qualitative Analysis				176	3	17
Sanitary Analysis	177	2	35			
Industrial Chemistry				178		28
Industrial Inspection Trip				184		21
Written Report	185	2	22	186	3	28
Industrial Chemistry	187	2-3	18	188	2-3	20
Inorganic Preparations	191	2		194	2	20
Rare Elements						
Applied Electro-Chemistry						
(Graduate Work.)						
Physical Chemistry	201	3	3	202	3	2
Organic Chemistry	205	3-5	6	206	3-5	1
Inorganic Preparations	209	3	1	210	3	
Historical Chemistry	213	2				
Organic Chemistry	215	2		218	2	10
Inorganic Chemistry				220	2	
The Phase Rule	221	2	11			
Electro-Chemistry				224	2	8
Analytical Chemistry	227	2	5			
Chemical Seminar	231	1	18	232	1	16
Research Work	235	5-10	3	236	5-10	4
CIVIL ENGINEERING.						
Land Surveying	101	4	49			
Field Practice in Land Surveying	101a	1	39			
Railroad Surveying				102	3	39
Field Practice in Railroad Surveying				102a	1	24
Topographic Drawing	103	2	45			
Topographic Surveying	105	3	37			
Summer Surveying Camp, 104-4						
Roads and Streets				106	3	29
Stereotomy	107	3	33			
Timber Construction				108	3	25
Sanitary Engineering	109	2	38			
Stresses in Structures				110	4	31
Summer Surveying Camp, 111-4						
Railway Location				112	4	20
Bridge Designing	113	4	27			
Advanced Bridges				114	4	7
Masonry Construction	115	3	29			
Masonry Structures				116	3	26
Water Supply	117	3	13	117a	3	18
Cement and Concrete	118a	3	15	118	3	25
Thesis	119	1	29	122	4	23
Contracts and Specifications				120	2	29
Surveying and Topographic Drawing	121	6	19			
Trusses	123	3	26	124	3	32
Tall Buildings	125	3	10			
Timber and Masonry				126	2	31
Plane Surveying				128	2	53
Investigation and Design				202	3	1

THE WORK OF INSTRUCTORS 1913-1914 — Continued

Course Subject	First Semester			Second Semester		
	Course Number	Credit Hours	Total No. of Students in all Sections	Course Number	Credit Hours	Total No. of Students in all Sections
COMPETITIVE AND RECREATIVE ATHLETICS.						
Activities and Duties of Department Members:						
Director Athletics						
Business Management Inter-Collegiate Athletics						
Direction Basket-ball—Dec. 1 to March 15.						
Varsity 40, Freshman 70						
Direction Base-ball—March 1 to June 16.						
Varsity 60, Freshman 76						
Assistant in Foot-ball—Sept. 20 to Nov. 22.						
General promotion Intra-Mural Activities.						
Active promotion Intra-Mural Base-ball—600						
Director Track and Field Athletics						
Director Track and Field Sports—Dec. 1 to June 6—200						
Direction Cross Country Running—Sept. 20 to Nov. 22—75						
Assistant in Foot-Ball—Sept. 20 to Nov. 22.						
Promotion Intra-Mural Activities in Cross Country Running, Track and Field Athletics, Soccer Foot-ball—300						
Director Foot-ball						
Direction of Foot-ball						
Actual playing season—Sept. 20 to Nov. 22—Varsity squad 80, Freshman 66						
Winter Lecture Course in Foot-ball—Feb. 24 to April 4—Three hours per week—60						
Spring Foot-ball Practice—April 14 to May 28—Hours 4 to 6, three days per week—60						
Active Organization and Promotion Intra-Mural Athletics—Dec. 1 to April 4						
Direct Supervision Intra-Mural Basket-ball—300						
Assistant Intra-Mural Track, Indoor work—200						
DAIRYING.						
Farm Dairying				102	4	76
Advanced Dairying				114	3	18
Milk Condensing and Ice Cream Making				110	5	13
Advanced Dairying				118	10	2
Principles of Dairying	101	4	127			
Elementary Dairying	109	4	67			
Advanced Dairying	113	3	14			
Advanced Dairying	117	3	1			
Dairy Mechanics	111	3	14			
City Milk Supply	103	2	5	104	2	47
Cheese Making	107	3	9	108	3	9
Butter Making	106	5	23	106	5	21
ECONOMICS AND SOCIOLOGY.						
Economic and Social History of England and United States	131	3	57	131	3	40
Economic Geography	133	3	39	133	3	49
Principles of Economics	135	3	347	136	3	224
Principles of Economics	136	3	8	135	3	89
Elements of Accounting	139	2	58	140	2	28
Senior Seminar in Economics	145	2	3	146	2	2
Financial History of the United States	147	2	5	148	2	4
Business Law	149	2	40	150	2	36
Public Finance	141	2	7			
Problems of Taxation				144	2	6
Money and Currency	153	3	25			
Banking and the Money Market				154	3	22
Life Insurance	157	3	8			
Property Insurance				158	3	19

THE WORK OF INSTRUCTORS 1913-1914—Continued

Course Subject	First Semester			Second Semester		
	Course Number	Credit Hours	Total No. of Students in all Sections	Course Number	Credit Hours	Total No. of Students in all Sections
ECONOMICS AND SOCIOLOGY—Concluded.						
Commercial Development	159	3	7			
Foreign Markets and the Consular System				162	3	12
Corporation Economics	163	3	24			
Railway Economics				167	3	19
Railway Organization and Administration	168	3	7			
Industrial Organization				164	3	11
Accounting Practice	173	3	9			
Auditing				174	3	11
The State in its Relation to Industry and Labor	177	2	2	178	2	2
Principles of Sociology	101	3	161	102	3	139
The Indian	108	3	8			
Primitive Man in Ohio				108	1	4
Poverty	111	3	23			
Preventive Philanthropy				112	3	16
Historical Socialism and Social Reform	113	3	3			
Recent Socialism and Social Reform				114	3	10
Field Work in Sociology	115	2	3	116	2	9
Seminar in Sociology	117	2	3	118	2	2
Graduate Seminar in Economics and Sociology	207	2	4	208		5
Special		3	1			1
ELECTRICAL ENGINEERING.						
General Electrical Engineering	101	5	43			
General Electrical Engineering	103	3	49			
Direct Current Machinery				104	5	23
Applications of Electricity				106	1.5	30
Alternating Current Circuits and Machinery				108	1.5	30
Alternating Currents Continued	109	3	30			
Alternating Current Laboratory	111	3	29			
Advanced Alternating Current Laboratory				112	3	29
Electric Railways	113	2	13			
Telephony	115	2	3			
Electric Illumination	117	2	13			
Wireless Telegraphy	119	2	3			
Electric Design	121	3	29			
Electric Design				122	2	6
Electric Transmission and Distribution				124	2	8
Special Reading and Laboratory	125					
Special Reading and Laboratory				126	2	4
Thesis	127	1	29			
Thesis Continued				128	5	29
Inspection Trip East				130		58
Inspection Trip West (Not given in 1913-14)				132		
Reading Course (Alternative with E. E. 130)				134		
Reading Course (Alternative with E. E. 132)				136		2
<i>For Graduates Only</i>						
Advanced Alternating Current Machinery	201	2		202	2	
Transient Electrical Phenomena	203	2		204	2	
Advanced Alternating Current Dynamic Laboratory	205	2		206	2	
Research Work	207			208		
ENGINEERING DRAWING.						
Elementary Mechanical Drawing	101	2	351			
Mechanical Drawing				102	3	291
Descriptive Geometry	103	3	154			
Machine Sketching				104	3	76
Descriptive Geometry (C. E.)	106	3	34			
Advanced Descriptive Geometry				106	3	30
Descriptive Geometry (Arch.)	107	3	23			
Technical Sketching				110	2	28
Technical Drawing	111	2	61			
Freehand Drawing and Lettering (Short I. A.)	113	4	8			
Mechanical Drawing (Short I. A.)				114	3	10
Charcoal Drawing	115	2	32	118	3	17

THE WORK OF INSTRUCTORS 1913-1914 — Continued

Course Subject	First Semester			Second Semester		
	Course Number	Credit Hours	Total No. of Students in all Sections	Course Number	Credit Hours	Total No. of Students in all Sections
ENGINEERING DRAWING—Concluded.						
Pen Drawing				116	2	26
Water Color	117	3	14			
Clay Modeling	119	2	9			
Technical Drawing (Chem. Eng.)	121	2	20	122	2	17
Engineering Drawing (Forestry)	123	2	29			
Mechanical Drawing (Agr.)	125	2	122	126	2	127
Mechanical Drawing (Home Econ.)	127	1½	93			
House Planning (Home Econ.)				128	1½	81
Lettering (Pharmacy)	129	1	4			
Technical Drawing (Pharmacy)				130	2	8
Teaching of Mechanical Drawing	131	3	7	132	2	7
Technical Delineation	135	2	2	136	2	3
Engineering Drawing (Forestry)	137	2	3			
ENGLISH.						
Paragraph Writing	101	2	1,061	102	2	110
Paragraph Writing				104	2	782
Advanced Description and Narration	107	2	67			
Advanced Exposition and Criticism				108	2	73
Advanced Argumentative Writing	111	2	12	112	2	11
News Collecting and News Writing	113	2	80			
Newspaper Correspondence				114	2	56
Newspaper Practice	115	3	13	116	3	16
Editorial Work	117	2	6			
Newspaper Practice				118	2	9
Principles of Public Speaking	121	2	61			
Debating				122	2	45
Advanced Debating	123	2	10			
Extempore Speaking				124	2	15
History of the English Language	127	2	17			
English Words				128	2	29
Survey of English Literature	131	3	133	131	3	97
Survey of American Literature	134	3	75	134	3	154
The Age of Elizabeth	135	2	10			
The Age of Milton				136	2	18
Eighteenth Century Essayists	137	2	28			
Nineteenth Century Essayists				138	2	29
The Romantic Movement	139	2	17			
Wordsworth and his Period				140	2	32
Tennyson	141	3	47			
Browning				142	3	76
Old English	151	3	11			
Old and Middle English				152	3	10
The Novel	155	3	72	156	3	87
Versification	157	3	12			
The Short Story				158	3	27
Early Popular Drama	166	2	23			
The Drama from 1580 to 1642				166	2	19
Shakespeare	167	3	51	168	3	78
Modern English Drama	169	2	32	170	2	48
The Beginning of the Short Story	201	2	5			
The Lyric				202	2	5
Meredith, Hardy, James	207	2	10			
Poetry and the Drama Since 1880				208	2	10
English and Scottish Popular Ballads	209	2	7			
English Usage				210	2	9
Discussions of Dissertations	219	2	6	220	2	6
The Teaching of English				182	2	12
EUROPEAN HISTORY.						
Medieval History	101	3	195			
Modern History since 1500				102	3	198
History of England	103	3	55	104	3	53
History of Greece	105	3	24			
History of Rome				106	3	25
Medieval Civilization	107	2	3	108	2	10
The Age of the Renaissance	109	2	10			

THE WORK OF INSTRUCTORS 1913-1914—Continued

Course Subject	First Semester			Second Semester		
	Course Number	Credit Hours	Total No. of Students in all Sections	Course Number	Credit Hours	Total No. of Students in all Sections
EUROPEAN HISTORY—Concluded.						
The Period of the Reformation.....				110	2	10
The French Revolutionary and Napoleonic Periods	111	3	19			
Europe in the Nineteenth Century.....	112	3	11	112	3	26
Constitutional History of England.....	113	3	7	114	3	8
Europe and Africa, India, and Australia.....	115	2				
Europe and Turkey.....	116	2	19	116	2	15
History of Germany.....	119	2		120	2	19
Teachers' Course in European History.....				152	2	10
Seminar in Modern European History.....	203	2	8	204	2	8
FORESTRY.						
Elementary	101	2	37			
Silvics				102	2	27
History and Relations.....	103	2	21			
Arboriculture				104	3	22
Silviculture	105	3	16	105	3	14
Mensuration	107	4	15			
Utilization and Lumbering.....				108	4	8
Management	109	4	7			
Protection	111	2	16			
Forest Craft				112	2	24
Forest Economics.....	113	2	8			
Forest Policy				114	2	10
Wood Technology Products.....				116	4	7
Seminar	117	1	10			
Seminar				118	1	11
Advanced Forestry	119	5	7	120	5	10
Thesis			1			1
- GEOLOGY.						
Physiography	101	3	109	102	3	92
General Geology	105	3	237	152	3	134
General Geology				168	3	41
Applied Geology	153	3	160			
Inorganic Geology	106	3	23			
Historical Geology				104	3	17
Economic Geology	167	3	16			
Invertebrate Paleontology	107	2-5	7	108	2-5	8
Physiography of Central Ohio.....	111	3-5	8			
Field Geology	105	3-5	5			
Glacial Geology				106	3	4
Petrography				166	2	5
Elementary Physiography				162	4	4
Minor Investigations and Current Literature.....	141a	2	2	142a	2	8
Minor Investigations and Current Literature.....	141c	2	1			
Advanced Historical Geology.....	201	5	1	202	5	8
GERMAN.						
Elementary	101	4	267	101	4	24
Elementary	102	4	13	102	4	217
Intermediate	103	4	344	103	4	16
Easy Classical Reading.....	104	4		104	4	188
Science Reading				106	4	110
Advanced German	107	4	50	108	4	37
Classical and Modern Writers.....	115	2	35	116	2	32
Schiller	117	2	23	118	2	17
Nineteenth Century Drama.....	119	2	37	120	2	61
Nineteenth Century Lyric.....	123	2	23	124	2	23
Conversation and Composition.....	131	2	27	132	2	25
Conversation	133	2	8	134	2	11
Goethe	151	3	17	152	3	15
Volkslied and Volksbücher.....	157	2	12	158	2	15
Heines, Heibel	159	2	7	160	2	10
Advanced Prose Composition.....	171	2	12	172	2	10
Teaching of German.....	173	2	13			
Grammar Review				174	2	16
Middle High German.....	177	2	2			

THE WORK OF INSTRUCTORS 1913-1914—Continued

Course Subject	First Semester			Second Semester		
	Course Number	Credit Hours	Total No. of Students in all Sections	Course Number	Credit Hours	Total No. of Students in all Sections
GERMAN—Concluded.						
History of German Language.....				173	2	8
Advanced Middle High German.....	201	2	3	202	2	2
Gothic, Old High German.....	203	2	1	204	1	1
Seminar.....	215	2	8	215	2	8
GREEK.						
Elementary Greek and Anabasis.....	101	4	12	102	4	11
Xenophon: Memorabilia.....	105	4	3			
Homer: Iliad.....				106	4	1
Ancient Art.....	115	2	38	116	2	89
Plato: Phaedo.....	119	2	1			
HISTORY AND PHILOSOPHY OF EDUCATION.						
History of Education.....	101	3	35	102	3	40
Philosophy of Education.....	103	2		104	2	
Educational Classics.....	105	2	5	106	2	
History of European School Systems.....	107	2		108	2	
History of Education in U. S.....	109	2		110	2	
Seminar in History of Education.....	121	1		122	1	
Seminar in Educational Philosophy.....	123	1		124	1	
HOME ECONOMICS.						
Foods.....	101	4	128	102	4	121
Textiles.....	111	2	150	112	2	132
Sanitation.....				104	3	52
Seminar.....	105	2-5	49	106	2-5	47
Teacher's.....	108	3	42			
Dress.....	113	3	29	116	3	24
Dress.....				113	3	14
Household Management.....	107a	3	24	107	3	20
Household Art.....				114	3	60
Dietetics.....	110a	4	28	110	4	37
HORTICULTURE.						
Pomology.....	113	4	34	114	4	21
Pomology.....	105	4	26	106	4	26
Plant Variation.....	107	3	16			
Experimental Horticulture.....	109	3	23	109	3	20
	Sp.		2	Sp.		2
Principles of Horticulture.....	111	4	127	112	4	78
Principles of Horticulture.....	101	4	54	102	4	44
Pomology.....				118	4	118
Vegetable Gardening.....	103	4	45	104	4	36
Vegetable Gardening.....	115	4	20	116	4	13
Landscape Gardening.....				106	3	36
Winter Course.....						42
INDUSTRIAL ARTS.						
Tools and Machines.....	101	3	4	102	3	2
Designing.....	103	2	3	104	2	2
Strength of Materials.....				110	6	2
Machine Design.....				112	2	26
Shop Building.....				114	2	6
Shopwork.						
Carpentry and Pattern Making.....	101	2	170	102	2	151
Forging.....	103	2	191	104	2	137
Foundry.....	105	2	30	106	2	10
Chipping and Filing.....	107	2	30	108	2	15
Joinery and Pattern Making.....	109	2	45	110	2	20
Advanced Pattern Making.....	111	1	16	112	1	12
Cabinet Making.....	113	2		114	2	8

THE WORK OF INSTRUCTORS 1913-1914—Continued

Course Subject	First Semester			Second Semester		
	Course Number	Credit Hours	Total No. of Students in all Sections	Course Number	Credit Hours	Total No. of Students in all Sections
INDUSTRIAL ARTS—Concluded.						
<i>Shopwork—Concluded.</i>						
Forging	115	2	22	116	2	36
Advanced Forging	119	3	53	118	2	32
Machine Work	121	2	21	120	3	45
Advanced Machine Work	123	2	2	122	3	1
Construction Work	125	2	2	124	2	2
Tool Making and Jig Work	127	3	2	126	2	2
Wood Turning and Pattern Making	129	3	2	128	3	1
Advanced Cabinet Work	131	3	2	130	3	2
Research Work	201	5-10	2	132	3	2
				202	5-10	2
LATIN.						
Cicero and Horace	101	4	46			
Horace and Livy				102	4	38
Pliny and Catullus	103	3	24			
Catullus, Plautus and Terence				104	3	24
Roman Satire	106	2	4			
Roman and Comparative Literature	111	1	9	112	1	11
Pro-Seminar	113	3	11	114	3	11
Prose Composition	115	3	8	116	3	7
Advanced Reading	121	2	3	122	2	6
Sounds and Inflections	123	1	6	124	1	3
Syntax	125	1	3	126	1	3
Elementary Latin	147	4	10			
Cæsar				148	4	7
Roman Religion	201	1	3	202	1	3
LAW.						
Elementary Law		3	77			
Practice and Practice Court		2	46		2	38
Bankruptcy		1	18			
Trusts					2	28
Public Corporations					3	41
Brief Making					2	41
Legal Ethics, (6) Lectures						39
Criminal Law		3	79			
Torts					3	71
Private Corporations		2	46		2	38
Constitutional Law		3	47			
Damages					2	57
Partnership					2	54
Conveyancing		2	34			
Real Property II		3	59			
Property I		2	77			
Property II					2	62
Wills					2	58
Real Property III					3	56
Insurance					2	17
Contracts		3	81		3	68
Bailments		2	57			
Negotiable Instruments		3	50			
Agency					2	71
Sales					2	53
Federal Jurisdiction					2	6
Code Pleading		3	55			
Common Law Pleading					2	66
Torts		2	78			
Quasi Contracts		2	59			
Judgments		2	15			
Domestic Relations					2	69
Suretyship					2	53
Equitable Remedies					2	30
Equity Jurisprudence		4	40			
Ohio Ct. of Appeals and Supt. Ct. Practice					1	24
Evidence		2	59		2	55

THE WORK OF INSTRUCTORS 1913-1914 — Continued

Course Subject	First Semester			Second Semester		
	Course Number	Credit Hours	Total No. of Students in all Sections	Course Number	Credit Hours	Total No. of Students in all Sections
MANUAL TRAINING.						
Constructive Design	103	3	4			
Teaching of Manual Training.....	111	3	3	112	3	5
Handwork Correlation for Elementary Supervisors in Fine, Industrial and Household Arts.	121	3	11	122	3	19
MATHEMATICS.						
College Algebra and Trigonometry.....	106	4	24			
Plane and Solid Geometry.....	113	5	15			
College Algebra and Trigonometry.....	121	3	127			
Calculus	127	3	8	128	3	8
Mathematics of Statistics and Insurance.....	129	3	10			
College Algebra and Trigonometry.....	131	5	347			
Analytic Geometry and Algebra.....	132	5	40			
Differential Calculus	141	5	184			
Integral Calculus	142	5	36			
Differential Equations	151	1	44			
Plane and Solid Analytic Geometry.....	163	3	3			
Modern Higher Algebra.....	173	3	3			
Teaching of Mathematics.....	175	3	6	175	3	6
Theory of Functions of a Complex Variable.....	201	3	6	202	3	12
Plane Trigonometry and Analytic Geometry.....				106	4	21
Solid Geometry				114	5	12
Plane Trigonometry and Analytic Geometry.....				122	3	37
College Algebra and Plane Trigonometry.....				131	5	39
Mathematics of Finance and Insurance.....				130	3	10
Plane Trigonometry and Analytic Geometry.....				132	5	255
Calculus				141	5	36
Calculus				142	6	161
Theory of Functions.....						
MECHANICAL ENGINEERING.						
Mechanism	101	3	37			
Mechanical Engineering of Power Plants 56 + 41.	103	3	97			
Mechanism and Machine Design (Not given this year)				110	3	
Mechanism				114	3	31
Mechanism Drawing				116	1	32
Steam Engines 36 + 38				118	3	72
Steam Boilers				120	1	41
Heating and Ventilating.....	121	2	8			
Materials of Construction.....	123	2	8			
Gas Engines	125	2	26			
Machine Design 18 + 23 = ; 18 + 23 =	127	5	41	144	5	41
Thermodynamics	129	2	25			
Inspection Trip to the East.....				130		54
Inspection Trip to the West (Written Report).....				136		2
Mechanism and Machine Design.....				140	2	24
Hydraulic Machinery				142	2	25
Steam Turbines				146	2	19
Thesis Work (23 in M. E. and 1 in C. E.).....				148	3	24
Experimental Engineering 14 + 12 = 13 + 17 E. E.	175	3	26	160	2	30
Experimental Engineering 26 17 + 17 M. E.....	179	2	25	164	2	34
Experimental Engineering (Not given this year)						
Cer.	171	4				
Experimental Engineering C. E.....	173	5	22			
Experimental Engineering M. E.....				190	6	24
Experimental Engineering E. M.....				192	3	11
MECHANICS.						
Statics and Strength of Materials.....	101	5	164			
Strength of Materials, Kinetics and Hydraulics.....				102	5	122
Strength of Materials.....				104	2	19

THE WORK OF INSTRUCTORS 1913-1914 — Continued

Course Subject	First Semester			Second Semester		
	Course Number	Credit Hours	Total No. of Students in all Sections	Course Number	Credit Hours	Total No. of Students in all Sections
METALLURGY.						
Fire Arraying Metallurgy.....	105	8	8			
Metallurgical Analysis.....				106	4	9
Metallurgical Analysis—Alloy Analysis.....	107	4	6			
General Metallurgy.....	109	4	76			
Non-Ferrous Metallurgy.....				110	4	6
Metallurgical Construction.....	111	2	10			
Technical Gas Analysis.....				112	2	14
Ore Dressing.....	113	2	14			
Special Metallurgy.....				114	2	14
Thesis.....				116	8	4
Ceramic Analysis.....	101	5	22			
Ceramic Analysis.....				102	8	12
METEOROLOGY.						
Meteorology.....	101	2	154	102	2	7
MILITARY SCIENCE.						
Recitation in Drill Regulations for First Year Men.....	1	1	813	1	1	750
Drill Regulations—Guard Manual—for Second Year Men.....	2	1	562	2	1	495
Fifty-six Officers, Teachers in these Courses, First Semester.....						
Sixty Officers, Teachers in these Courses, Second Semester.....						
MINE ENGINEERING.						
Mathematics.....	101	5	10	102	5	11
Mine Engineering.....	101	5	1	102	5	1
Mine Engineering.....	103	4	19	104	4	11
Mine Engineering.....	105	5	12	106	5	10
Mine Engineering.....	107	2	1			
Mine Engineering.....	109	1	9	110	1	7
Mine Engineering.....				116	3	5
Metallurgy, Part Time.....	111	2	12			
Metallurgy, Part Time.....				102	4	1
MINERALOGY.						
Crystallography and Descriptive Mineralogy (Mine Eng.).....				102	3	14
Crystallography and Descriptive Mineralogy (Pharm. and Chemists).....				102	3	26
Determinative Mineralogy.....				104	3	4
Microscopic Mineralogy.....	121	3	2	121	3	3
Microscopic Petrography.....						
Advanced Crystallography and Physical Mineralogy.....	123	3	2			
PHARMACY.						
Theory and Practice.....	101	5	42	102	5	55
Operative Pharmacy.....	103	5	30	104	6	26
Materia Medica.....	105	3	32	106	3	26
Pharmaceutical Assaying, Etc.....	107	5	9	108	5	8
Pharmacognosy.....	109	3	36	110	3	31
Pharmacognosy.....	111	3	9	112	3	10
Pharmaceutical Problems.....	113	1	46			
Toxicology.....				114	3	23
Pathological Reagents, Etc.....				116	2	25
Pharmaceutical Latin.....	117	4	22	118	4	17

THE WORK OF INSTRUCTORS 1913-1914.—Continued

Course Subject	First Semester			Second Semester		
	Course Number	Credit Hours	Total No. of Students in all Sections	Course Number	Credit Hours	Total No. of Students in all Sections
PHILOSOPHY.						
Introductory Logic	102	3	77	101	3	58
Introduction to Philosophy.....	106	3	44	106	3	34
Elementary Ethics	115	2	30	116	3	23
Aesthetics	151	3	29	152	3	28
History of Philosophy.....	113	3	6	114	3	4
Advanced Logic	119	3	7			
Philosophy of Religion.....				142	3	15
Main Currents of 19th Century Thought.....	201	3	3	202	3	2
Graduate Seminar	207	3	6	208	3	5
Contemporary Philosophy						
PHYSICAL EDUCATION.						
Physical Education, <i>Men</i> — Floor Work	1			1		
Swimming		1	1,090		1	904
Personal Hygiene.....						
Advanced Exercises, Floor Work.....	2			2		
Physical Education, <i>Women</i> — Floor Work	1	1		1	1	
Floor Work	2	1	568	2	1	419
Theory	3	1½		3	1½	
Personal Hygiene.....						
PHYSICS.						
Elementary Physics	101	6	17			
General Physics	103	4	16	104	4	6
General Physics	105	4	45	105	4	30
Forestry Physics				108	3	23
General Physics	111	3	155	112	3	114
General Physics	113	5	82	114	5	41
Laboratory	121	3-5	8	122	3-5	7
Advanced Laboratory	123	3-5	6	124	3-5	5
Physical Laboratory	133	2	42			
Physical Laboratory	135	5	34	134	5	38
Physical Laboratory				138	2	33
Advanced Light and Electricity.....	143	3	10	144	3	10
Physical Seminar	145	1	2	146	1	1
Thermodynamics and Electrolytic Conduction.....	205	2	6	206	2	6
POLITICAL SCIENCE.						
Constitutional Government	101	3	73	102	3	50
				101	3	3
Introduction to Jurisprudence.....	111	3	12	112	2	10
Problems in International Politics.....	113	1	2			
International Law	103	2	7	104	2	5
Comparative Constitutional Law.....	119	2	2	120	2	2
Municipal Government and Problems.....				106	3	3
Party Government	107	3	4			
English Politics	123	3				
History of Political Theories.....				116	2	3
Pro-Seminar in Political Science.....	117	2	5	118	2	5
PRINCIPLES AND PRACTICE OF EDUCATION.						
Principles of Education.....	101	3	15			
Biological Principles in Education.....	105	3	14			
Observation, Criticism and Practice Teaching.....				104	3	14
Study of Principles of Education in Behavior.....				106	3	21
PSYCHOLOGY.						
General Psychology: Introductory Course.....	101	3	300	102	3	304
General Psychology: Introductory Course.....				101	3	52
Educational Psychology	107	2	33	108	2	34
Experimental Psychology	111	3	3	112	3	4
Experimental Psychology				111	3	3

THE WORK OF INSTRUCTORS 1913-1914 — Continued

Course Subject	First Semester			Second Semester		
	Course Number	Credit Hours	Total No. of Students in all Sections	Course Number	Credit Hours	Total No. of Students in all Sections
PSYCHOLOGY—Concluded.						
Abnormal Psychology	121	3	25	122	3	34
The Defective Child	125	3	23	134	2	6
Social Psychology	133	2	4	142	2-4	1
Individual Psychology	141	2	2	146	3	2
Research in Experimental Psychology	145	3	1	202	3	1
Seminar in Psychology	201	3				
Graduate Course in Psychology						
ROMANCE LANGUAGES.						
Introduction to Romance Philology	201	2	2			
<i>French.</i>						
Elementary French	101	4	336	102	4	266
Modern French Literature	103	4	168	104	4	113
Science Reading	107	2	21	106	4	15
Advanced Prose Composition	107	2	21	108	2	19
History of French Literature	109	3	38	110	3	32
Seventeenth Century Drama	111	3	6	112	3	4
Seventeenth Century Tragedy and Prose	113	2	29			
Eighteenth Century Drama	117	2	8	114	2	23
Nineteenth Century Drama	119	2	2	118	2	7
Recent French Prose				120	2	1
Practice in Speaking and Writing French						
French Seminar A						
French Seminar B						
<i>Italian.</i>						
Elementary Italian	101	2	17	102	2	17
<i>Spanish.</i>						
Elementary Spanish	101	4	156	102	4	108
Modern Spanish Literature	103	4	26	104	4	23
The Novel After Cervantes	107	2	8	106	2	6
Contemporaries of Lope de Vega and Calderon	209	3	1			
Research in Spanish Literature						
RURAL ECONOMICS.						
Farm Management	103	4	123	102	4	46
Farm Management (Winter Course)		4	123			
Farm Accounts	101	2	21	101	2	12
Farm Accounts				Spl.	2	1
Research Work	107	5	3	108	5	2
Agricultural Economics				104	3	106
Historical and Comparative Agriculture	105	3	7			
SCHOOL ADMINISTRATION.						
The Organization of Public Schools	101	3	9	102	3	3
The Administration of Public Schools				104	1	1
School Hygiene and Sanitation	103	1	1	112	3	16
The Secondary School	111	3	14	106	5	3
Comparative School Administration	106	5	2	122	2	8
The Teaching of Agriculture in the High School	123	3	2	124	3	
The Elements of General Agriculture	125	2	4			
Rural Life and Institutions	127	2		132	2	
History of Agricultural Education						
Teaching Elementary Agriculture						
VETERINARY MEDICINE.						
Veterinary Anatomy	101	6	58	102	10	55
Veterinary Anatomy	103	3	61	134	2	8
Surgery				120	3	51
Veterinary Medicine				126	5	33

THE WORK OF INSTRUCTORS. 1913-1914—Concluded

Course Subject	First Semester			Second Semester		
	Course Number	Credit Hours	Total No. of Students in all Sections	Course Number	Credit Hours	Total No. of Students in all Sections
VETERINARY MEDICINE—Concluded.						
Materia Medica	107	3	61	108	5	52
Pathological Histology	113	3	48	112	3	47
Parasitology				114	1	46
Meat Inspection				122	2	46
Ophthalmology				130	1	46
Canine Diseases	115	2	47	116	2	46
Winter Course (Agriculture)					3	60
Physical Diagnosis	127	3	51			
General Pathology	105	5	50			
Clinics for Large Animals	128	14 $\frac{1}{2}$	47	124	14 $\frac{1}{2}$	47
Clinic for Small Animals	119	14 $\frac{1}{2}$	47	119	14 $\frac{1}{2}$	47
Principles of Horseshoeing	109	3	53			
Obstetrics	111	3	47			
Practice in Operating (Large Animals)	125	1	42			
Practice in Operating (Small Animals)	121	1	47			
Surgical Diseases				132	5	44
General Therapeutics				128	2	44
ZOOLOGY AND ENTOMOLOGY.						
Elementary Zoology	101	3	533	102	3	433
Comparative Anatomy of Vertebrates	103	3	10	104	3	9
Economic Entomology	107	3	179	108	3	163
Systematic and Practical Entomology	109	3	46	110	3	29
Parasites of Domestic Animals	111	1	6			
Apiculture				112	3	6
Special Entomology	113	4	10	114	4	11
Vertebrate Embryology	125	3	7	126	3	5
Embryology				128	2	55
Quantitative Studies in Variation Heredity, Etc.	129	2	21	130	4	7
Evolution	131	3	11	132	3	10
Comparative Neurology				134	3	1
Advanced Entomology	137	3	6	138	3	7
Ornithology	139	2	5	140	2	6
Research Work	141	5	1	142	5	1
Zoological Seminar	143	1	14	144	1	14
Teachers' Course	145	2	1			
Research Work	241	5	8	242	5	7
Invertebrate Zoology	247	5	1	248	5	1
Vertebrate Embryology	249	3	3	250	3	2
Thesis			5			5

APPENDIX VI.

*SHOWING THE WHOLE NUMBER OF DEGREES IN COURSE CONFERRED SINCE THE FOUNDING OF THE UNIVERSITY

	1878	1879	1880	1881	1882	1883	1884	1885	1886	1887	1888	1889	1890	1891	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913	1914		
Bachelor of architecture.....	1	1	6	2	2	1	5	4	6	8	6	1	7	2	6	9	12	19	13	17	18	8	14	16	6	16	68	68	93	80	80	107	120	122	139	148	9	7	
Bachelor of arts.....	1	1	6	2	2	1	5	4	6	8	6	1	7	2	6	9	12	19	13	17	18	8	14	16	6	16	68	68	93	80	80	107	120	122	139	148	9	7	
Bachelor of philosophy.....	1	1	6	2	2	1	5	4	6	8	6	1	7	2	6	9	12	19	13	17	18	8	14	16	6	16	68	68	93	80	80	107	120	122	139	148	9	7	
Bachelor of science.....	5	5	1	2	5	3	2	4	2	4	4	8	2	10	7	11	7	9	4	27	30	31	38	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37
Bachelor of science (Agr.).....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
Bachelor of science in biology.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
Bachelor of science in chemical engineering.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
Bachelor of science in chemistry.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
Bachelor of science in domestic science.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
Bachelor of science in education.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
Bachelor of science in forestry.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
Bachelor of science in home economics.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
Bachelor of science in horticulture.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
Bachelor of science (H. F.).....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
Bachelor of science (I. F.).....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
Bachelor of science (I. Arts).....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
Bachelor of science (Phar.).....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
Ceramic engineer.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
Civil engineer in architecture.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
Civil engineer.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
Mechanical engineer.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
Mechanical engineer in electrical engineering.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
Engineer of mines.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
Graduate in pharmacy.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
Master of pharmacy.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
Doctor of civil engineering.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
Doctor of veterinary medicine.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
Master of arts.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
Master of arts in education.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
Master of science.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
Master of science (Agriculture).....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
Master of science (Dom. Sc.).....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
Master of science (H. F.).....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
Doctor of philosophy.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
Doctor of science.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		

APPENDIX VI—Continued.

	1878	1879	1880	1881	1882	1883	1884	1885	1886	1887	1888	1889	1890	1891	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913	1914
Juris Doctor																																					
Bachelor of laws																9	15	16	6	23	22	21	25	17	28	30	11	15	17	28	15	16	23	10	19	18	3
Master of laws															2	4	2		6							2	3	1									
Totals	6	7	9	8	9	11	12	16	18	24	28	36	30	36	61	79	70	112	118	135	126	99	137	135	141	170	194	209	225	249	287	333	370	422	501	515	608
Degrees conferred during the year as of the class of																1												6	0	5	6	5	15				
Totals																											200	209	230	255	292	348					

* Statistics given prior to 1904 cover only the degrees granted at the Commencement.

APPENDIX VII.

SHOWING THE NUMBER OF STUDENTS IN THE GENERAL, TECHNICAL AND PROFESSIONAL COURSES

	1890-91	1891-92	1892-93	1893-94	1894-95	1895-96	1896-97	1897-98	1898-99	1899-1900	1900-01	1901-02	1902-03	1903-04	1904-05	1905-06	1906-07	1907-08	1908-09
General Courses (College of Arts).....	137	151	194	245	256	322	327	358	371	419	439	403	490	496	490	551	572	630	714
Technical Courses (other Colleges, except Law).....	166	239	381	398	424	453	453	511	541	603	771	898	1,089	1,135	1,129	1,282	1,280	1,436	1,626
Professional Courses (College of Law).....	...	55	67	72	65	100	132	148	191	201	220	188	166	171	179	162	153	138	132
*Graduate students and summer school.....	2	...	...	1	...	94	97	133	75	45	51	49	62	108	54	240	339	379	468
†Summer school (shopwork).....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	74	75	81	80	90
Lake Laboratory (summer)...	...	...	...	...	...	...	...	...	...	...	...	19	...	23	32	26	19	26	32
Totals	305	465	642	696	745	909	1,019	1,150	1,178	1,298	1,481	1,547	1,757	1,933	1,958	2,316	2,444	2,689	3,052
Names counted twice.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	159	167	216	258
Net Total .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2,157	2,277	2,473	2,794

* Until 1896, graduate students have been included in the first three classes.

† Until 1904, summer term students in shopwork have been included with graduate students.

APPENDIX VII — Concluded.

SHOWING THE NUMBER OF STUDENTS IN THE GENERAL
TECHNICAL AND PROFESSIONAL COURSES

	1909-1910	1910-1911	1911-1912	1912-1913	1913-1914
General Courses (Colleges of Arts and Education)...	845	865	962	1,009	1,139
Technical Courses (Other Colleges Except Law)....	1,643	1,790	1,979	2,106	2,392
Professional Courses (College of Law).....	181	170	185	198	187
Graduate Courses (Graduate School 1911-).....	96	70	97	128	183
Summer Session	606	617	733	575	671
Lake Laboratory (Summer).....	36	22	28	25	32
Winter Courses	159	183	273	227	203
Total	3,566	3,707	4,262	4,268	4,757
Names counted twice.....	291	268	334	299	322
Net total	3,275	3,439	3,928	3,969	4,435

APPENDIX VIII.

SHOWING DEGREES AND CERTIFICATES GRANTED IN JUNE, 1914.

GRADUATE SCHOOL.

Dean: WILLIAM MCPHERSON

DOCTOR OF PHILOSOPHY

EVA MARIE CAMPBELL, B. A., M. A.....	Centerville
DANIEL JENKINS WILLIAMS, B. A. (University of Wisconsin), M. A. (University of Wisconsin), B. D. (Union Theological Sem- inary)	Oshkosh, Wis.

MASTER OF ARTS

GERTRUDE BARTLETT, B. Sc. (Ohio University).....	Sonora
ERIC SYDNEY COGAN, B. A. (University of Cape of Good Hope),....	Grahamstown, South Africa
KENNETH CHARLES COTTINGHAM, B. A.....	Columbus
WAHNTA DELONG, B. A. (Ohio Wesleyan University).....	Crooksville
HENRY LAKE DICKASON, B. A.....	Lindside, W. Va.
CARL JOHN DRAKE, B. Sc., B. Ped. (Baldwin University).....	Tiffin
HOWARD LEROY DUNLAP, B. Sc., (Ohio University).....	Flushing
ISAAC WILLIAM GEIGER, B. A.....	Bluffton
ROSE GORMLEY, B. A.....	Clintonville
HAZEL HEDGES, B. A.....	Columbus
MARY BLANCHE HOWE, Ph. B. (Ohio University).....	Athens
LILLIAN EATON HUMPHREY, B. A.....	Ironton
EDWARD CHARLES HYTREE, B. S. (Ohio Wesleyan University).....	Nutwood
MARGUERITE ICKES, B. A. (Smith College).....	Columbus
ARTHUR ROY LEONARD, B. A. (Williams College).....	Columbus
CHARLES H. LEWIS, B. A. (Ohio Wesleyan University).....	Leesburg
CARL D. MCGUIRE, B. Sc. (Chem. Eng.).....	Columbus
CLAUDE PERKINS MCNEIL, B. Sc. (Wooster University).....	Manchester
ANSON EARL MOODY, B. A.....	Crestline
RALPH REO MURPHY, A. B. (Indiana University).....	West Union, W. Va.
EVELYN OSBORN, B. A.....	Columbus
CHARLES EMMETT OXLEY, B. S. (Denison University).....	St. Marys
CHARLES RAYMOND PARKINSON, B. Sc. in Chem. Engr.....	Columbus
WALTER WESLEY PLOCH, B. A.....	Columbus
ELOISE RAMSEY, B. A.....	Chicago, Ill.
WALTER GARFIELD REITZEL, B. A.....	Columbus
CHARLES FRANKLIN ROSS, B. A.....	Richwood
CHARLES ROSS SCHROYER, B. A.....	State College, Pa.
ALVA WELLINGTON SMITH, B. A.....	Fayette
JOHN GEORGE VAN DEUSEN, B. A.....	Columbus
GRACE MELICK WIGTON, A. B. (Wittenberg College).....	Roseville
ROSS BROOKE WILDERMUTH, B. A.....	Pleasantville
AMY WILLIAMS, B. A.....	Columbus
RALPH BYRON WILSON, B. A.....	Columbus

MASTER OF SCIENCE

CHARLES MILLARD FRITZ, B. Sc. in Agriculture.....	Wooster
GEORGE WILLIAM HOOD, B. Sc. in Horticulture and Forestry.....	Lincoln, Neb.
CLAYTON LEWIS LONG, B. Sc. in Horticulture.....	Columbus
THOMAS EVERETT RICHMOND, B. A.....	Cleveland
FREDERICK J. SALTER, B. Sc. in Agriculture.....	West Unity
ROBERT MUNDHENK SALTER, B. Sc. in Agriculture.....	West Unity
MALCOLM CAMERON SEWELL, B. Sc. (Kansas State Agricultural College)...	Columbus
NELLIE SWARTZEL STANTON, B. Sc. in Domestic Science.....	Columbus

DEGREES CONFERRED DURING THE CURRENT ACADEMIC YEAR

As of the Class of 1913

MASTER OF ARTS

BERTHA PEELE ARTHUR.....	Wilmington
MARY FLORENCE BRADDOCK.....	Columbus
HARRY FARNSWORTH CHILDS.....	Columbus
ALBERT KINKADE CHAPMAN.....	Marysville
HOWARD EARL FRITZ.....	Columbus
EDWARD SCHMIDT.....	Georgetown
WALTER JACKSON STEPHENS.....	Columbus
EDWIN BARLOW EVANS.....	Columbus

MASTER OF SCIENCE

OSWIN RAY CLUTTER.....	New Concord
CLARE OLIN EWING.....	Carey
WILLIAM HENRY GOODWIN.....	Wooster

COLLEGE OF AGRICULTURE.

Dean: HOMER CHARLES PRICE

BACHELOR OF SCIENCE IN AGRICULTURE

JAMES HEZEKIAH ALLEN, Ph. B. (Lafayette College).....	Kenton
JESSE LEONARD BARNHART.....	Gratis
WILLIAM STEVENSON BAUCHMILLER.....	Dayton
HENRY CLAY BAUMGARDNER.....	Sugar Grove
EARL AMOS BAUMILLER.....	Nutwood
WALTER ARMSTRONG BAUSCH.....	Cincinnati
EDGAR STANLEY BIRD.....	Independence, Ky.
RAY CLEMMER BISH.....	Dayton
JOSEPH EDWARD BOWMAN, B. Sc. (Denison University).....	Thurston
FRANK LOGAN BOWSER.....	Wauseon
OSCAR FISCHER BOYD, B. A.....	Martinsville
EDWARD HERMAN BRETSCHNEIDER.....	Cleveland
ROY R. BUCHANAN.....	Ripley
WILLIAM ARTHUR BUENTE.....	Cincinnati
LOUIS HENRY BURGWALD.....	Lakewood
FRANK SCOTT BUSBY.....	Lancaster
LERoy DANIEL CAMPBELL.....	New Bedford, Pa.
HARRISON DAVIS.....	Covington
LELAND ELIAS DePRIEST.....	Dayton
RAY M. DIBBLE.....	Leipsic

VAUGHN BAYARD DITRICK.....	Orient
RAY FISK DONNAN, B. A. (Ohio Wesleyan University).....	Delaware
RAE PETERS DOWLER.....	Groveport
LAURENCE WOOD DURRELL.....	Norwood
HOWARD FREDERICK EHLENDING.....	Norwood
HERBERT EICHORN.....	Mt. Healthy
CHARLES CASTOR ENSIGN.....	Bryan
SIRAGAN HAVHANNES EZEKIELIAN.....	Marsovan, Turkey
RAYMOND LOUIS FEDDERSEN.....	Lakewood
PAUL GEIGER.....	Hebron
WASHINGTON IRVING GEISSMAN.....	New Washington
DON WALLACE GRIFFIN.....	Sylvania
VERNON RAYMOND HABER.....	Columbus
JOSEPH CLAY HALE.....	Newark
CYRIL BLONDEL HARPSTER.....	Columbus
MAURICE D. HELSER.....	Thornville
JOHN WILLIAM HENCERTOTH.....	Pleasant Valley, W. Va.
ALEXANDER JOHN HENDERSON.....	Smithfield
FREDERICK HERMAN HERZER.....	Marion
EDWIN GEROME HIBBS.....	Scio
KARL DEWITTE HIRN.....	Spencerville
CHARLES WALTER HOLDSON.....	Jefferson
ARTHUR PAUL JONES.....	Cleveland
MERRILL KING.....	Chardon
EDWARD TAYLOR KIRKENDALL.....	Columbus
HUGH RAYMOND McANALL.....	Iberia
WILLIAM CARLETON McQUISTON.....	College Corner
ROBERT LeROY MARSH.....	Kent
WESLEY GEORGE MECKSTROTH.....	St. Marys
DILLON SEYMOUR MYER.....	Hebron
HERSCHEL WARD NISONGER.....	New Madison
GLENN DEFOREST NORTON.....	Chippewa Lake
FRED EDWARDS PERRY, B. A. (Ohio Wesleyan University).....	Delaware
GROVER C. PETERS.....	Groveport
FRANCIS EUGENE PIPER.....	Ashtabula
BYRON ERNEST PONTIUS.....	Liberty Center
EVERETT PARK REED.....	Gilboa
ALBERT HARTMAN RICHENBACHER.....	Columbus
CHARLES HENRY RIGGS.....	Oberlin
HOWARD ROGERS.....	Gilboa
CLYDE LAWRENCE ROSE.....	North Dover
CHARLES FRANKLIN SALT.....	Columbus
GEORGE PETER SAMMAN.....	Beach Park
GEORGE BUTLER SAWYER.....	Madisonville
CHARLES EARL SCHIEB.....	Akron
PAUL LEONIDAS SHARRITT.....	Germantown
ANTHONY LAWRENCE SHEBANEK.....	Cleveland
TOLA ROBINSON SHIVELY.....	McComb
GARABED K. SIVASLIAN.....	Columbus
JOHN SLIPHER.....	Frankfort, Indiana
DAVID BINNS SMILEY.....	Hilliard
RALPH QUINCY SMITH.....	New Carlisle
THOMAS LOUIS SMITH.....	Youngstown
WILLIAM GORDON SMITH.....	Spiceland, Indiana

THERON BRODER STEELE.....	Columbus
HAROLD RUPERT STILLMAN.....	Andover
CHARLES HOWARD STOKES.....	Fremont
CORVIN ROBERT STONER.....	New Berlin
WALTER RAY SUNDERLAND.....	Dayton
VICTOR TAPKE.....	Cincinnati
FRANK BEECHER TRACY, JR.....	Euclid Village
ADOLPHUS ARTHUR TURNER.....	Hackley, Ky.
JONATHAN BEEM WAGY.....	Summit Station
JAMES FRENCH WALKER.....	Flushing
THOMAS DEWITT WALKER.....	Springfield
ABRAHAM BERT WILLIAMS.....	Painesville
WALTER LEONARD WILLIAMS.....	Wilmington
ALVA BENTON WILSON.....	Columbus
JAMES PERRY WILSON.....	Granville
CLAYTON JOHN WINDAU.....	Sandusky
FREDERICK WINKLER.....	Orrville
JOHN LESLIE YODER.....	Bellefontaine
CARL HERBERT YOUNG.....	Bowling Green

DEGREES CONFERRED DURING THE CURRENT ACADEMIC YEAR

BACHELOR OF SCIENCE IN AGRICULTURE

As of the Class of 1912

JOHN CALVIN QUIMBY.....	Bridgeport
ERSKINE CLARK WRIGHT.....	Columbus

As of the Class of 1913

DAN LLOYD AUGENSTINE.....	Salem
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BACHELOR OF SCIENCE IN FORESTRY

PAUL GEORGE ATEN.....	Delaware
JAMES GARFIELD BLISS.....	Canton
RAY SAMUEL DIETZ.....	Canal Winchester
WALTER SCHUSTER ECKMAN.....	Columbus
RANDOLPH WILLIAM HELLWIG.....	Columbus
CLARENCE BERTRAM HENRY.....	Columbus
ROBERT JOYCE HOUGH.....	Greenville
JOHN EWERT JONES.....	Martins Ferry
WALTER NUHFER MOULTON.....	Plain City
GEORGE MCNEAL TRAUTMAN.....	Bucyrus
HARRY MAYER UDOVITCH.....	Columbus

BACHELOR OF SCIENCE IN HORTICULTURE

CHARLES GILBERT CARPENTER.....	Mentor
NORRIS RAYMOND ELLIOTT.....	Chandlersville
KARL JOHN HOPP.....	Newark
RALPH WILLARD JORDAN.....	Creston
HOMER CLYDE KELLEY.....	New Lexington
WILLIAM GUY KESLER.....	Columbus
JOHN HEROLD LONGBON.....	Valley City
HELENA CHAMBERLAIN LOVEJOY, B. A.....	Columbus
WILLIAM ERVINE MCCANN.....	Frazeysburg

KELTON McDOWELL.....	Plain City
ELIZABETH NIXON	Zoar
BENJAMIN HARRISON REPP.....	Tiffin
MAXWELL MILLER SCARFF.....	New Carlisle
HARVEY ADAMS SCHENCK.....	Columbus

DEGREE CONFERRED DURING THE CURRENT ACADEMIC YEAR

BACHELOR OF SCIENCE IN HORTICULTURE AND FORESTRY

As of the Class of 1905

EDWARD D. COBERLY.....	Columbus
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BACHELOR OF SCIENCE IN HOME ECONOMICS

FRANCES THERESA ALLEN.....	Kinsman
HELEN MARIE ASHCRAFT.....	Mt. Vernon
MABEL LOUISE BARR.....	Columbus
LOIS HELEN BARRINGTON.....	St. Marys
IDA BASINGER.....	Pandora
HELEN LOUISE PAULINE BOYLAN.....	Columbus
AGNES MARGUERITE BRADY.....	Union City, Ind.
CARRIE ELIZABETH CLIFTON.....	Wauseon
AVIS AUGUSTA CRAWFORD.....	New Holland
MARY ELIZABETH DALTON.....	Columbus
EVA MAY DEYO.....	Orient
FLORENCE ELSIE ECKMAN.....	Columbus
ELsie MARGARET FRANK.....	Columbus
HAZEL KATHERINE GERHARDT.....	Circleville
MARY EVELYN GREEN.....	Columbus
RUTH IDA GUENTHER.....	Mansfield
OPAL MAY HATTON.....	Marysville
BESSIE BLANCHE HAYMES.....	Mt. Vernon
CLARE KENNEDY.....	New Holland
VERA BERTHA LEWIS.....	Wilmington
LOUISE LIPPINCOTT.....	Columbus
MARY FORREST MCBEE.....	Mansfield
MYRTLE MCBETH.....	Georgetown
LELIA MARGARET MCGUIRE.....	Columbus
FRANCES CLEVELAND MCKINNEY.....	Marietta
EDITH MAE MILLER.....	West Lafayette
LELIA BEATRICE NUZUM.....	Columbus
FLORENCE HENRIETTA ORTHOEFER.....	Columbus
FANNY RUTH PRATT.....	Wellington
EDITH MAY SAUERS.....	Columbus
NAN RUTH SHARPLES, B. A.....	Warsaw
HAZLE IRENE SHERMAN.....	Columbus
MAUDE SHOVER.....	Grove City
LULU STRADER.....	Lockbourne
MARY ALICE SWOPE.....	Lancaster
ALICE WARD.....	Sandusky
HAZEL BURNETT WILLIAMS.....	Arcanum
FLORENCE HESS WILLISON, B. PH.....	Columbus
CARRIE SIMPSON ZENTMYER.....	Newark

DEGREE CONFERRED DURING THE CURRENT ACADEMIC YEAR

BACHELOR OF SCIENCE IN DOMESTIC SCIENCE

As of the Class of 1913

GRACE GRAHAM WALKER.....Mt. Vernon

COLLEGE OF ARTS, PHILOSOPHY AND SCIENCE

Dean: JOSEPH VILLIERS DENNEY

BACHELOR OF ARTS

LELA POLAND ALBRIGHT.....Carrollton
 JACOB VALLEY ARIELBrooklyn, N. Y.
 BERTHA GERTRUDE ATWELL.....Somerset
 MADELINE JOHNSON BAIRD.....Columbus
 LESLIE THOMPSON BARE.....Hannibal
 HELEN BLANCA BARNHILL.....Columbus
 ALBERT OTTO BECKER.....Marietta
 DOROTHY BEEBE.....Columbus
 CAROLINE THRALL BENHAM.....Columbus
 CLARENCE ALLEN BIERY.....Bluffton
 ROBERT FRED BIRD, A. B. (Cedarville College).....Cedarville
 HAROLD JOHN BLANCHARD.....Niagara Falls, N. Y.
 RUTH BLOWER.....Columbus
 RIVE KING BOWMAN.....Columbus
 GEORGE ALBERT BREDEHOFT.....Oak Harbor
 HARRIET LEBLOND BRETZ.....Celina
 CLARENCE ELLSWORTH BREWER.....Columbus
 MAURICE BRIGGS.....Portsmouth
 CHARLES DONALD BROWN.....Columbus
 ELEANOR GERTRUDE BROWN.....Dayton
 MARY ISABELLA BROWN.....Caldwell
 RUTH EVELYN BROWN, B. Sc. (Edu.).....Columbus
 GLADYS JANET CAPELL.....Columbus
 KATHERINE MARY CARMACK.....Columbus
 MABEL ELIZABETH CAVE.....Redlands, California
 MAX ALEXANDER CHENOWETH, (Degree granted April 24).....Columbus
 RAJENDRA NARAYAN CHOWDHURY.....Malda, India
 GEORGE HENRY CLESS.....Worthington
 JAY LORD COLLINS.....Wauseon
 GUY LESLIE CONANT.....Columbus
 JOHN WILLIAM CONWELL.....Cadiz
 RUSSELL STRODE CUNNINGHAM.....Lancaster
 TRUMAN CURRELL.....Cleveland
 GINO VINCENT MEDICI DE SOLENNI.....Columbus
 HUNTLEY DUPRE.....Columbus
 GEORGE WENDELL ECKELBERRY.....Columbus
 MARY ELIZABETH ENGLISH.....Columbus
 MOSELLE LEOTA ERK.....Columbus
 RUTH EVANSPlain City
 MARY CAROLINE EVENS.....Cincinnati
 ELSIE DINSMORE FISHER.....Steubenville
 RUTH ERMINA FLEMING.....Columbus
 HARRIET FOSTER.....Worthington

ARTHUR FOX.....	Hamilton
LOUISE FOX.....	Columbus
GEORGE RAYMOND GARRETT.....	Chillicothe
ESTHER LUCILLA GATEWOOD.....	Clintonville
BERJ ZIYA GAYDZAKIAN.....	Albistan, Turkey
HARRY LAVERNE GRIFFITH.....	Shadyside
PAULINE CATHERINE GROSCHNER.....	Napoleon
RUTH BESSIE HABERCORN.....	Columbus
DONNA HAMILTON.....	East Liberty
DONALD MCLEOD HARLOR.....	Columbus
GOULD LEACH HARRIS.....	Columbus
CARL CARLISLE HARSH.....	Logan
LILLIAN HARRIET HAWK.....	Kimbolton
HELEN HAYWARD.....	Gallipolis
NAOMI MARIE HENRY.....	Columbus
ALMA ANNETTE HERBST.....	Columbus
GREENWOOD HIGGINS.....	Columbus
ANNA HOLLISTER.....	Galion
CELIA OLETA HOOVER.....	Worthington
MARVEL CORINNE HORN.....	Columbus
MARGARET FENTON HOWARD.....	Xenia
ETHEL FAYE HUFFMAN.....	Columbus
HAROLD SHERMAN HUFFMAN.....	Columbus
WILLIAM EDWIN JENKINS.....	Columbus
ESTHER LOUISE JOHNSON.....	Columbus
HELEN DOROTHY KAETZEL.....	Columbus
GRACE MINNIE KALTER.....	Dayton
RUTH MILDRED KELLER.....	Columbus
EDMUND PIRRUNG KELLEY.....	Columbus
WALTER RUCKHABER KIMMEL.....	Dayton
WALKER JAMES KING.....	Columbus
ADELAIDE LUCILE KINNEY.....	Columbus
EDWIN GARFIELD KNEPPER, A. B. (Tri-State College).....	Bryan
SARAH MARIE KOUNS.....	Columbus
ANNA KATHRYN LAMB.....	Hooker
CAROLINE PEARL LANGWORTHY.....	Hamilton, N. Y.
ELIZABETH CAMILLA LAWRENCE.....	Columbus
CLARA HELEN LEAHY.....	Columbus
BENJAMIN LEVITIN.....	Brooklyn, N. Y.
FRED SUMMERS LEWIS.....	Alliance
LOUISE ADELE LINHART.....	Columbus
ELIZABETH LONG.....	Columbus
FLORA McCAMPBELL.....	Plain City
MARK LEWIS McCAVE.....	Salem
GEORGE MATTHEW MCCLURE.....	Wooster
PAUL McCORKLE.....	Youngstown
MARY LILLIAN MCCURDY.....	Zanesville
CHARLES BASTIAN McDUGAL.....	New Lexington
HELEN McFARLAND.....	Columbus
LESLIE CLAIR MCGINLEY.....	Akron
DEBORAH MAY MACNEILAN.....	Columbus
ILO MADDUX.....	New Holland
ANNA CLARE MASON.....	Columbus
GUSTAV ADOLF MECKSTROTH.....	New Knoxville

ETHEL BOYD MERRICK.....	Zanesville
CHARLES STANLEY MILLER.....	Dublin
NEWTON THOMAS MILLER.....	Medina
THOMAS ABRAHAM MILLER.....	Columbus
CORA ALNETTE MINER, B. Sc. (Edu.).....	Columbus
WILHELMINA MOHLENPAH.....	Newark
EDWARD LORENZO MORRISSEY.....	London
HELEN MURRAY.....	West Jefferson
CORAL DUKE NATHAN.....	Columbus
HOWARD WINFIELD NATION.....	Eaton
HUGH EMORY NESBITT.....	Columbus
LUCILLE MARY O'BRIEN.....	Columbus
MARGUERITE PARKER.....	Cincinnati
DONALD GILDERSLEEVE PATERSON.....	Columbus
RUTH ELIZABETH PFLAGER.....	Columbus
OSCAR BISHOP PHILLIPS.....	Medina
ELIZABETH JOSEPHINE PIRRUNG.....	Columbus
HAZEL HELEN PRATT.....	Delta
INEZ LELIA McCANN PUGH.....	Columbus
KATHARINE LOVING PUGH.....	Columbus
ALWYN CHARLES PURINGTON.....	East Liverpool
FLORENCE DALLAS RAMSEY.....	Sharon, Pa.
BERNARD RAYMOND.....	Columbus
OSCAR GARDNER REA.....	Columbus
PAUL ARNETT REICHEL.....	Columbus
FREDERICK RANDALL REMINGTON.....	Pomeroy
HELEN ADELAIDE RICHEY.....	Columbus
EUGENE HOLLOWAY ROSEBOOM.....	Columbus
EDWARD JOHN ROSINO.....	Sandusky
EARL JOHN ROY.....	McCombs
PEARL CLIO SALSBERY.....	North Baltimore
OTTO WALTER SCHAEFER.....	Carroll
BERTHA ELIZABETH SCHEIDERER.....	Columbus
OLGA AURELIA SCHMIDT.....	Mansfield
JAMES PHILIP SCHRIDER.....	Bryan
LOUISE WUICHET SCOTT.....	Columbus
HELEN ELIZABETH SELLS.....	Columbus
ANNA LAURA SHANE.....	Columbus
JOE SHERIDAN.....	Dayton
RAYMOND EZRA SHOOK.....	Urbana
CECIL MELVILLE SIMS.....	Basil
WAYLAND KENNEDY SULLIVAN.....	Batavia
MINABELLE SUMMY.....	Columbus
EVA MARIE THORPE.....	Caldwell
IRENE THRAILKILL.....	Columbus
LOUISE ESTHER TOMY.....	Salem
JOHN TURKOPP.....	Columbus
EVA JEAN VAN FOSSAN.....	Lisbon
DOROTHY FAWDEN WARD.....	Worthington
ARDRIE BRIGHTON WEISER.....	Canal Winchester
MADGE WEST.....	Columbus
HELEN MARGUERITE WETMORE.....	Columbus
MARTHA ELIZABETH WHITED.....	Pittsburgh, Pa.
IRIS LUCILE WILDERMUTH.....	Columbus

WILLARD EARL WILDMAN.....	Wilmington
OTTO FRANCIS WILKINSON.....	Hilliard
WILLIAM ALBERT WITZEMANN.....	Columbus
EVANGELINE WOLFEL.....	Columbus
IVAN GERALD WRIGHT.....	Columbus

BACHELOR OF SCIENCE IN BIOLOGY

JOSEPH LYONEL KING.....	Cleveland
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BACHELOR OF SCIENCE

As of the Class of 1901

ROBERT HENRY MARRIOTT.....	New York City
DEGREES CONFERRED DURING THE CURRENT ACADEMIC YEAR	

BACHELOR OF ARTS

As of the Class of 1913

DEWITT ADKINS.....	Circleville
ELIZABETH ALLEN.....	Columbus
MARIE ELIZABETH BLUETT.....	Columbus
PO CHEN.....	Changsha, China
HENRY LAKE DICKASON.....	Lindsie, W. Va.
EMILY MARIE DIETZ.....	Columbus
CHARLES HENRY DRINKLE.....	Lancaster
JAMES HENRY ERWIN.....	Niagara Falls, N. Y.
SAMUEL CHRISTIAN FRANKS, B. S. (Lima) B. Sc. in Ed.....	Lima
JOHN SOLOMON HARE.....	Bryan
RAY ARTHUR HECK.....	Arcanum
HAROLD J. JANSON, B. Sc. in Ed.....	Magnolia
GARBIS KEULEGAN.....	Columbus
MARY JOYCE LOWER.....	Coshocton
EDREL IRENE SCHUMP.....	Columbus
BEULAH LOUISE WARDELL.....	Columbus
CARL STUART WILLIAMS.....	East Cleveland
JOHN GEORGE VAN DEUSEN.....	Kipton

As of the Class of 1914

ABE PLOSHANSKY DUNMAR.....	Columbus
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COLLEGE OF EDUCATION

Dean: WILLIAM W. BOYD

BACHELOR OF SCIENCE IN EDUCATION

MAUDE GREGORY ADAMS.....	Columbus
EDNA M. ANDRIX.....	Columbus
EMILIE BALZ.....	Columbus
CLARA MAY BARLOW.....	Hudson
LILLIAN BERNICE BENNETT.....	Mt. Vernon
EUNICE DELILAH BOWSER.....	Wauseon
ELIZABETH BROWN.....	Caldwell
HELEN VINCENTIA COADY, B. A.....	Columbus
CLARENCE CRAWFORD COONTZ.....	Findlay
NAN COSTIGAN.....	Columbus

EDITH LUCILE FRAZIER.....	Columbus
GLENNA JULIA HESSE.....	Columbus
GLADYS HOERNER.....	Lewisburg
EDWIN GARFIELD KNEPPER, A. B. (Tri-State College).....	Bryan
FLORA McCAMPBELL.....	Plain City
VERA MARION MCCOY.....	London
FLORENCE MARGARET MCGONAGLE.....	Junction City
LEO DALE MCILROY.....	Raymond
ILO MADDUX.....	New Holland
CLARENCE FLEMING RIDGLEY.....	Chesterhill
FLORENCE ELIZABETH SCHULTE.....	Toledo
AOUDA BLAINE SMITH.....	Union City, Ind.
FLORENCE MITCHELL SMITH, B. A.....	Columbus
ALICE SWISHER.....	Delaware
EVA MARIE THORPE.....	Caldwell
MARIE WASHBURN.....	Columbus

DEGREES CONFERRED DURING THE CURRENT ACADEMIC YEAR

BACHELOR OF SCIENCE IN EDUCATION

As of the Class of 1913

JENNIE HARMON.....	Columbus
CHARLES EDWARD DOUST.....	Columbus

COLLEGE OF ENGINEERING

Dean: EDWARD ORTON, JR.

BACHELOR OF ARCHITECTURE

JOHN HUNTON BAKER.....	Marysville
JOHN WILLIAM DAVIS.....	Mt. Gilead
HERBERT JOSIAH KOHN.....	Cleveland
FRED JOHN LAUER.....	Ottoville
ROGER BENTON MORROW, B. A.....	Columbus
ALBERT JASPER ROUSH.....	Aid
JOHN CLINTON WELLS.....	Columbus

CIVIL ENGINEER IN ARCHITECTURE

CARL FREDERICK WILHELM SCHAUFEL.....	Defiance
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CERAMIC ENGINEER

KENNETH ISAAC FULTON.....	Portland, Indiana
ARTHUR NEAL GOOD.....	Columbus
ARTHUR VAN HENRY.....	Columbus
BERNARD LELAND MORRIS.....	Columbus
SAMUEL RUOFF.....	Columbus
RALPH WILLIAM SIMMONS.....	Columbus

BACHELOR OF SCIENCE IN CHEMICAL ENGINEERING

EMIL HAROLD JACOB BALZ.....	Columbus
WILLARD TREGO BURGOON.....	Chillicothe
ALFRED ALLEN CHAMBERS.....	Dayton
PAUL COTTRINGER.....	Niagara Falls, N. Y.

ROLLIN HARTLEY CRAGG.....	Cincinnati
CARL RAYMOND DeLONG.....	Cuyahoga Falls
ROY DAVIS FRITZ.....	Columbus
LAWRENCE AMOS GREGG.....	Washington C. H.
EDWARD GILBERT HINES.....	Delta
BRICE STEWART HULL.....	Van Wert
LESLEY STAHL JENKINS.....	Berlin Heights
ABRAM ALLISON KOHR, Ph. B. (University of Wooster).....	Dayton
JOHN ROYAL LOWER.....	Hicksville
PAUL REED MORRIS.....	Lima
RALPH WALDO SHAFOR.....	Hamilton
FREDERICK CLAYTON SMITH (as of the Class of 1913).....	Grafton
PAUL EPWORTH SPRAGUE.....	L.....Columbus

CIVIL ENGINEER

ASA DWIGHT BAILEY.....	East Akron
PAUL SIFRIT BAZLER.....	Columbus
HERBERT STANLEY BEAR.....	Eaton
ROBERT STEWART CALLAND.....	Summerfield
RAYMOND PUGH EYMAN.....	Columbus
CARL GEORGE FAEHNLE.....	Columbus
WILMER SHERMAN GEHRES.....	Waverly
JAMES LLOYD CHAMBERLAINE HENRY.....	Baltimore, Md.
CLARENCE MORGAN JAY.....	Gibsonburg
EDWIN LEE JONES (as of the Class of 1913).....	Smithton, W. Va.
LeROY KELLS.....	Mt. Vernon
HAROLD BRADLEY KENNEDY.....	Marysville
WILSON HOMER KNOX.....	Columbus
CLARENCE JACOB KUHN.....	Rutland
ALBERT FLOYD LOHR.....	London
CLYDE LEWIS MOORE.....	Lowellville
LESTER SHAW MOYNAN.....	Columbus
JOHN O'NEIL.....	Columbus
EDWIN RIGHTMIRE.....	Mt. Vernon
PAUL OSCAR SCHUBERT.....	Columbus
CHARLES EARL SHOEMAKER.....	Columbus
RAYMOND HEWITT SMITH.....	Woodstock
VERNON KENNETH SNYDER.....	Herkimer, N. Y.
CHARLES RAYMOND STOWELL.....	Columbus
WALTER WILSON WILDERSON.....	Orrville
JOHN ALBERT ZELINSKI.....	Cressona, Penn.

MECHANICAL ENGINEER IN ELECTRICAL ENGINEERING

WILLIAM MITCHELL BARRETT.....	Hillsboro
LANDIS HESS BBUBAKER.....	Lancaster, Pa.
HOWARD THORNTON BRYAN.....	Wilmington
KARL JOHN BUMGARDNER.....	Lancaster
ROBERT BRUCE CRISWELL.....	Cambridge
ALTON FRANK DAVIS.....	Alliance
WILBUR CLYDE DYER.....	Columbus
PAUL RAYMOND FORD.....	Middletown
LLOYD WILKIN FROST.....	St. Louisville
RALPH BARR HOPPMANN.....	Columbus
JESSE HUFF.....	Rogers

ABRAHAM KLEINBERG.....	Columbus
BENJAMIN LEVITIN.....	Brooklyn, N. Y.
AUSTIN McLANE LLOYD.....	New Cumberland, W. Va.
RALPH ANTHONY METZGER.....	Columbus
WILLIAM HENRY NOBLE.....	Medina
THEODORE HERBERT PYLE.....	Cincinnati
HARRY KURTZ RANDALL.....	Springfield
DEANE MATTHEWS RICHMOND.....	Columbus
FRED RAYMOND SHAMEL.....	Uhrichsville
AUBURN SMITH.....	Chicago Junction
JOHN MILTON STRAIT.....	Columbus
FRED GIBSON TARBOX (as of the Class of 1911).....	Findlay
V. EDGAR WALTERS.....	Findlay
MERRIL MAX WEIBLING.....	Westerville
SAMUEL S. WILLAMAN.....	Salem
JAY RAYMOND WOHRLEY.....	Columbus
LEO RICHEY YEAGER, E. M.....	Columbus

DEGREE CONFERRED DURING THE CURRENT ACADEMIC YEAR

MECHANICAL ENGINEER IN ELECTRICAL ENGINEERING

As of the Class of 1913

JOHN VINTON MCCARTNEY.....	Tyrrell
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MECHANICAL ENGINEER

ENRIQUE MANUEL BENITEZ.....	Santurce, Porto Rico
HAROLD EDWIN COWSER.....	Columbus
HARRY STODDARD CRARY.....	Wilmington
THOMAS DWIGHT DANFORTH.....	Marysville
GEORGE HENRY DRAKE.....	West Dover
WALTER CHARLES ENSIGN.....	Elyria
ARCHIE LEE GEISINGER.....	Medina
RALPH MARTIN HARDGROVE.....	Doylestown
CARL PETER HAUCK.....	Portsmouth
RALPH CYRELL HERSHISHER.....	Chicago Junction
WALTER GEORGE HOFFMAN.....	Columbus
THOMAS JOHN JONES.....	East Liverpool
ROBERT BRUCE MARSHALL.....	Greenville
CLARENCE LEWIS NEWBY.....	Columbus
HUGO FROELICH SEITZ.....	Dayton
BOYD HAINER SMITH.....	Lexington
CHESTER DAVID SWAIN, B. S. (Wilmington College).....	Wilmington
ROBERT NICHOLAS WAGENER.....	Canton
BERTRAM JOSEPH WATERS.....	Lancaster
BERNARD HENRY WEISZ.....	Columbus

DEGREE CONFERRED DURING THE CURRENT ACADEMIC YEAR

MECHANICAL ENGINEER

As of Class of 1913

CLINTON CODRUS BROWN.....	New Madison
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ENGINEER OF MINES

JAMES JOSEPH BOWDEN.....	Niles
IRA CLINTON CALLANDER	Delaware
BYRON HARRISON CARPENTER.....	Mentor
JOE CRITES.....	Lakeside
MAURICE DONOVAN CURRAN.....	Corning
EARL RAY.....	Coalton
FLOYD LEWIS SIMMONS (as of the Class of 1911).....	Columbus
CHARLES WARNER STAFFORD.....	Jefferson
LORON HARVEY STRANAHAN.....	Wauseon
CHARLES WESLEY VOGEL.....	Toledo

COLLEGE OF LAW.

Dean: JOHN JAY ADAMS

JURIS DOCTOR

KENNETH GORBY COOPER, B. A., (University of Wooster).....	Bellaire
ROBERT CONANT DUNN, B. S. (Denison University).....	Bowling Green

BACHELOR OF LAWS

WALTER HUGH ALBAUGH.....	Phoneton
LeROY BRADFORD.....	Columbus
BROOKLYN BRIDGE.....	Columbus
CLARK VINCENT CAMPBELL.....	Flushing
H. LEVI CONNETT.....	Columbus
LODWICK CRARY DAVIS.....	Middleport
JOHN DAVIS DUN.....	Toledo
ARTHUR SELLS FITE, B. A.....	Georgetown
ROY HABER.....	Columbus
HENRY HERMAN HOLLENCAMP, JR.....	Dayton
LEWIS FAIRCHILD LAYLIN, B. A.....	Columbus
DARIUS CURTIS REED, B. A.....	Pomeroy
RALPH JABEZ REYNOLDS, B. A.....	Columbus
JOE SHERIDAN.....	Dayton
OTTO HERMAN SPENGLER, B. A.....	Napoleon
MYER HEWSON STANLEY.....	Dayton
HARRY ELLISON THURSTON, PH. B. (Denison University).....	Granville
PAUL VANE WADDELL, B. A. (Ohio Wesleyan University).....	Lamira
AUGUST WILLIAM WEBER, B. A.....	Dublin

COLLEGE OF PHARMACY

Dean: GEORGE BEECHER KAUFFMAN

BACHELOR OF SCIENCE IN PHARMACY

OTTO CARL BLUM.....	Portsmouth
JOHN CLINTON BOWMAN.....	Thornville
ROBERT BRUCE MCCANN.....	Columbus
EARL ALOYSIUS MAY.....	Van Wert
ALBERT REINHART PAAR.....	Canton
PAUL C. SLATER.....	Mechanicsburg

COLLEGE OF VETERINARY MEDICINE

Dean: DAVID STUART WHITE

DOCTOR OF VETERINARY MEDICINE

PAUL FREDERICK BITTNER.....	Columbus
LELAND ADELBERT BROWNE.....	Little Falls, N. Y.
LISTER ALVIN BURKEY.....	Berlin
DANIEL ELWARD CRANZ.....	Ira
JOSEPH FRANCIS DERIVAN.....	New Vienna
JAMES EUGENE DWYER.....	Louisville
NORMAN ALLEN EVANS.....	Waterville, N. Y.
HARRY LEWIS FOUST.....	West Cairo
KENT WHARTON FRANKS.....	Doylestown
OSWALD HOOD GRAHAM, B. S. (Clemson Agricultural College)....	Scranton, S. C.
JAMES DANIEL GROSSMAN.....	Fredericktown
MARVIN E. HARTLEY.....	Quaker City
FLOYD HIXSON.....	Conover
WALTER ROMEO HOBBS.....	Cortland
FOREST LEE HOLYCROSS.....	Hilliard
HARRY ALLEN HOOPES.....	Marysville
MARK WILLIAM HOWETT.....	Osborn
THOMAS BOYD JACOBS, B. S. (Clemson Agricultural College)....	Columbia, S. C.
HOWARD CARL HENRY KERNKAMP.....	St. Paul, Minn.
JOHN MCCracken KERR.....	Parnassus, Pa.
GEORGE WENDELL LIES.....	Spencerville
RAYMOND IRVIN LOVELL.....	Twinsburg
WILLIAM FRANCES LUDWIG.....	Marietta
LANCELOT ROBERT MONTGOMERY.....	Cogswell, North Dakota
EDWARD EUGENE MORIARITY.....	Sabina
FRED JAMES MORRIS.....	New Vienna
DAVID CLATE PRIESTLEY.....	Gallipolis
RUSSELL EDMUND REBRASSIER.....	Louisville
LLOYD MARK RODGERS.....	Pleasantville
LOUIS SAMUEL SAYLOR.....	Canal Winchester
CHARLES AUSTIN SAYRE.....	Pataskala
FRED HARRISON SCHLEICH.....	Williamsport
JOSEPH PRESTWICH SCOTT.....	Salem
EARL J. STARBUCK.....	Wilmington
FREDERICK SCOTT THURMAN.....	Columbus
KARL ADAM TRISH.....	Hilliard
FRANCIS RICHARD WADSWORTH.....	Castalia
HUGH FRANCIS WALKER.....	Williamsburg
ISRAEL WALLMAN.....	Pequannock, N. J.
CECIL CHARLES WATTS.....	Peoria
EARL JOSEPH WERNET.....	Canton
WILFRED BUCK YEARNs.....	Spencer, Ind.
HURSH REGINALD YOST.....	Somerset

PROFESSIONAL CERTIFICATES

CERTIFICATE IN LAW.

WILLIAM BUNDY BARTELS.....	Dayton
LUTHER LEROY BOGER.....	Columbus

MARIE GRACE CLARK.....	Columbus
BERT OSCAR EVANS.....	Mt. Vernon
HERMAN HARRY FELSMAN.....	Columbus
HERBERT HEINEMANN	Put-in-Bay
FRANK SAMUEL HEMMINGER.....	Weston
PAUL JEFFRIES HENRY.....	Columbus
PAUL COLE HICKS.....	Columbus
JOSEPH LONG HILTON.....	Mansfield
WALTER ALOYSIUS HOUCK.....	Attica
HARRY NUSBAUM	Canton
ARONHOLD COHEN SCHAPIRO.....	Portsmouth
STANLEY BERTRAM SCHWARTZ.....	Columbus
MARCELL JOHN WALSH.....	Columbus
CLIFFORD MAYBERRY WOODSIDE.....	Youngstown

CERTIFICATE OF PHARMACEUTICAL CHEMIST

ERRETT ALTMAN DAVIS.....	Glouster
HUGH EDGINGTON	Jeffersonville, Ind.
JESSIE EPSTINE	Chillicothe
GLENN CORNELIUS FOWLER.....	Garrettsville
JOHN ANDREW GORDON, A. B. (Oberlin College).....	Washington, D. C.
VICTOR FRANK GREENSLADE.....	Bellevue
ERNEST PARTRIDGE JACKSON.....	Springfield
FRANCES KIRKLAND	Ostrander
RUBY KIRKLAND	Ostrander
JOHN CALVIN MOFFET.....	East Claridon
WILLIAM CEPHAS NORTON.....	Greenfield
FRED AMOS POWELL.....	Circleville
HERSCHEL VIVON ROUTZONG.....	Greenville
LEAFY ALFARETTA SAUER.....	Zanesville
JACOB LAWRENCE WAGNER.....	Greenville
ALBERT ROYCE WILL.....	National Military Home

15th Annual Report

of the

State Fire Marshal

to the

Governor of the State of Ohio

for the Year

1 9 1 4

ERRATA.

This report is late because the matter for it was not ready until July, 1915, and the contractor of state printing did not deliver it at the state bindery until November.

BERT B. BUCKLEY,
State Fire Marshal.

FIFTEENTH ANNUAL REPORT

OFFICE OF THE STATE FIRE MARSHAL.

COLUMBUS, OHIO, January 15, 1915.

HON. FRANK B. WILLIS, *Governor*.

SIR:—I have the honor to submit, in accordance with law, a detailed statement of my official actions and the transactions of the Department of the State Fire Marshal for the year 1914, it being the Fifteenth Annual Report thereof.

The total number of fires reported to the Department for the year ending December 31, 1914, was 7,033, and the total damage to buildings and contents was estimated at \$7,889,622. These figures show a greater number of fires reported, but a reduction in loss as compared with the previous year. In 1913 only 5,340 fires were reported and the loss was \$8,952,279. The value of the buildings and contents involved in the fires of 1914 was placed at \$57,116,790, on which there was carried \$34,713,521 insurance.

The total losses by fire and the loss per capita in the five largest cities of the state were as follows:

	<i>Total loss on build- ings and contents.</i>	<i>Per Capita.</i>
Cleveland	\$1,539,904	\$2 11
Cincinnati	692,692	2 45
Columbus	135,170	67½
Toledo	308,510	1 66+
Dayton	340,770	2 43

The extremely heavy losses in Cleveland are largely accounted for by two great fires which occurred in lumber yards located in the very heart of the city. One of these destroyed a large viaduct which was the principal means of transportation to the west side.

In 1913 the total loss in that city was but \$864,970, which was less than that in 1914 by \$674,935.

The combined loss in all cities of the state, including all county seats, a few of which have less than 5,000 inhabitants, was \$5,131,055, and the average loss per capita was \$1.98.

The population of Ohio, according to the Federal census of 1910, was 4,767,121, and in 1913 was estimated at 5,025,000. It is now probably 5,100,000. Using 5,100,000 as the basis for 1914, the per capita loss for that year, throughout the state, was \$1.54, as compared with \$1.79 per capita in 1913.

The month of November furnished the largest number of reported fires, viz., 704, while the preceding month, October, had the least, 415, as compared with August and November the preceding year.

Almost half of the fires occurred in dwellings, the number being 3,430, which is almost 1,000 more than in 1913. Barns and stables followed with 945, and stores with 591.

The damage to dwellings and contents was \$1,464,244; to barns and stables, \$1,026,740, and to stores \$1,692,587.

In dwellings, as usual, defective flues were the leading cause, being responsible for 519 fires, or almost one-sixth of the total, while matches, carelessly used, or in the hands of children, started 446, and sparks from chimneys, locomotives, etc., caused 600.

Of barns, the greatest number were destroyed by lightning, 162 fires having resulted from this cause. But this compares favorably with 1913, when 319 were reported as due to this agency.

In dwellings, as usual, defective flues were the leading cause, being form; 49 by careless smokers; 24 by defective flues and 28 each by electric wires and gas explosions. The total number of 591 such fires shows an increase over 1913, when there were only 338. The loss was also considerably greater this year, being \$1,692,587 as compared with \$906,326 in the former year.

There was also an increase in the number of fires in manufactories from 224 in 1913 to 298 in 1914. The loss, however, was less, being \$1,206,487 as against \$1,389,286 last year.

Sixty-three school houses were visited by fire, almost twice as many as in the year previous, when the number was 34, and loss was \$82,817 as against \$57,029 in 1913.

It seems to have been a hard year also on automobiles, there having been more than twice as many burned as in the year before. In 1913 only 41 such fires were reported, with a loss of \$12,171, while this year 99 were destroyed, the loss being \$36,254.

The daily average number of fires was 19.27, and the average loss per fire was \$1,121.81. The total average daily loss was \$21,642.80.

FIRES AND LOSSES BY YEARS SINCE DEPARTMENT WAS ESTABLISHED.

Following is a table showing the number of fires and losses, annually, since the department was created, the first full year of its operation being 1901:

<i>Year.</i>	<i>No. fires.</i>	<i>Loss.</i>
1901	7,011	\$11,196,189
1902	5,194	8,000,000
1903	6,025	7,797,995
1904	5,812	6,850,578
1905	4,851	6,112,707

1906	4,448	6,990,111
1907	4,534	7,077,702
1908	5,322	6,681,703
1909	4,544	6,537,061
1910	4,724	6,952,320
1911	4,930	5,718,120
1912	5,991	8,060,412
1913	5,340	8,952,279
1914	7,033	7,889,622

The increase in the number of fires reported in 1914 is doubtless entirely due to the improved relations between the department and the local officials charged with the duty of reporting fires. An especial effort has been made to keep in close touch with fire chiefs in particular, and the result has been that the department has received reports from towns which had never previously been reporting.

But with the increased number of fires reported, it is nevertheless highly gratifying that the loss has been kept down. Improved fire-fighting facilities and improved construction must, of course, be given credit for such a showing.

DEFECTIVE FLUES.

The defective flue is one of the things that is constantly looked for by an inspector and very many of them are discovered annually and ordered repaired. Nevertheless there seems to be practically no diminution in the number of fires resulting from this cause.

This year 612 fires were attributable to this agency, a little less than 10% of the whole number, and the loss was \$392,805.

More than five-sixths, or to be exact, 519 of the fires thus caused, occurred in dwellings.

The responsibility for this loss must rest upon the shoulders of the householders alone, for an inspection once or twice a year of each of the houses in which these fires occurred would have undoubtedly resulted in the removal of the hazard.

THE BUSY SPARK.

Sparks were even more prolific as a cause of fires than the defective flue. They came from chimneys, locomotives, smokestacks and traction engines, and combined were successful in their evil mission in 811 cases, and carried a loss of \$917,658, almost one-seventh of the entire loss in the state.

As has been frequently remarked before, had the roofs of the buildings burned in these instances been of fire-resistive material instead of combustible material, most, if not all, of the million dollars worth of property would have been saved.

The number of fires attributable to this cause was nearly double that of last year, which was 422.

LIGHTNING.

In the matter of lightning, fires this year show a marked decrease, there having been only 233 as against 416 in 1913. Barns suffered in 162 cases.

These must also be placed in the preventable class. Despite the lingering skepticism of some as to the value of lightning rods, experience has demonstrated that a properly constructed and installed rod will ward off the lightning stroke.

MATCHES AND CARELESSNESS.

Matches carelessly used, or in the hands of children, which is carelessness also at bottom, were second only to sparks as a fire-producing agency, thus maintaining the record of last year. There were 823 fires which originated in this manner. Individual care in the use of this uvalable but dangerous little device alone will reduce the number of fires due to this cause.

SMOKERS' CARELESSNESS.

Smokers seem to have grown more careless since the last report. In 1914 they were responsible for 216 fires as against 176 last year.

MISCELLANEOUS.

Burning rubbish and bonfires were the cause of 199 fires; electric wires, 162; gasoline explosion, 179, and stoves too near woodwork, 563.

INCENDIARY FIRES.

The increase in the total number of reported fires carried with it a corresponding increase in the number of incendiary fires, there having been 198 of this character in 1914.

Below is given a table showing the number of incendiary fires, together with the resultant losses for each year of the department's operation.

<i>Year.</i>	<i>No.</i>	<i>Loss on Buildings.</i>	<i>Loss on Contents.</i>
1901	291		
1902	232	\$151,229	\$196,338
1903	190	96,164	80,603
1904	168	81,250	111,497
1905	97	43,571	49,788
1906	134	83,961	124,469
1907	126	152,520	101,154
1908	117	63,988	77,549
1909	118	82,643	58,088
1910	110	63,532	56,390
1911	132	99,998	53,992
1912	95	124,603	46,426
1913	131	178,537	64,068
1914	198	163,940	71,178

RESULT OF INVESTIGATIONS.

The activities of the department in the work of investigating fires of suspicious or unknown origin resulted in 74 convictions for incendiary crime in its various forms, as against 72 in 1913.

Following is a table showing the results in detail:

Convictions	74
Warrants issued	91
Arrests	90
Bound over	52
Failed to bind over.....	2
Indictments	43
Failed to indict.....	16
Acquittals	9
Plead guilty	17
Confessions	40
Pending	15

The motive of those convicted was as follows:

To defraud insurance companies.....	15
Malice or revenge.....	8
Malicious mischief	30
To conceal crime.....	3
Pyromania and insanity.....	18

As compared with the previous year, the desire to defraud insurance companies was a more frequent motive, there having been 15 such cases as against 11 in 1913. Malice and revenge were the motives in only 8 cases as against 17 last year, while pyromania and other forms of insanity were responsible for 16 fires in 1913 and 18 in 1914.

Below is a table showing the number of convictions secured annually since the department was established:

<i>Year.</i>	<i>Number.</i>
1901	16
1902	30
1903	36
1904	29
1905	46
1906	39
1907	72
1908	46
1909	70
1910	30
1911	85
1912	72
1913	72
1914	74

Arson and its kindred forms of incendiarism have always furnished cases different of proof and doubtless, always will. But the results shown in Ohio demonstrate that these forms of crime can be successfully dealt with. The great results accomplished in this state show that the force of investigators improve with added experience. They learn to know what evidence is and what is necessary in order to secure a conviction in a court of justice. This doubtless accounts for much of the success of the department in recent years.

That the skill of the men in handling their cases has greatly developed is demonstrated in the matter of confessions alone. In 1913, only 20 persons could be persuaded to admit their guilt. In 1914, this number was increased to 40, or just double that of the previous year. Experience alone can teach investigators of crime the way in which to so surround an incendiary with proofs of his guilt as to secure an admission of the truth from him. And a confession from an incendiary is of greater value than it is in most other crimes. Frequently it is about the only proof of the identity of the criminal, and sometimes the only proof of the incendiary origin of the fire, as the evidence of the latter is very often entirely destroyed. And therein lies one of the greatest difficulties in the prosecution of these cases.

PROSECUTIONS FOR FAILURE TO COMPLY WITH ORDERS.

Criminal prosecutions for failure to comply with orders of the department as to the removal of fire hazards, proved its efficiency several times during the year.

The statute provides, in Sec. 837 of the General Code, that "Any person, or persons, being the owner, lessee or agent of buildings or premises, who willfully, fails, neglects or refuses to comply with any order of any officer named in the last four preceding sections, shall be guilty of a misdemeanor and shall be fined not more than fifty dollars nor less than ten dollars for each day's neglect."

This furnishes us a remedy where, as occurs in some cases, it seems inexpedient for the Fire Marshal to exercise the authority vested in him by other sections to remedy the conditions found according to his order.

In no instance was it found necessary this year to try any case, as the mere fact of the arrest of the recalcitrants showed them their folly in resisting the orders issued, and a ready compliance was obtained.

As was remarked in the report of last year. "We have found the criminal prosecution a most salutary feature of the law and a mere hint that it would be evoked has brought about a speedy compliance with the orders of the department in several later instances."

INSPECTION WORK.

In accordance with the view expressed in last year's report, that "The Fire Marshal is thoroughly convinced that the greatest practical

results in the cause of fire prevention, insofar as his department is concerned, will come from the inspection branch of the service", that line of work has been prosecuted with especial energy.

Throughout the state, there were made in all, 8,524 inspections of buildings and premises. On these inspections 7,996 orders were issued, of which 3,167 were to raze the buildings involved and 4,829 were to repair or otherwise correct the reported condition. At the close of the year, 7,269 of these orders had been complied with. This splendid result was only obtained by means of the careful follow-up system used by the department.

A gratifying feature was the fact that very few appeals were made from the large number of orders issued, and only one of these was carried from the Fire Marshal to the Probate Court.

In addition to the ordinary routine work of inspection, general clean-up campaigns were conducted in several cities of the state, in conjunction with local officials and civic bodies and organizations especially interested in the work of fire prevention.

The most notable of these were in the cities of Cleveland and Columbus. In Cleveland 631 orders were issued, of which 516 were to raze the buildings and 115 to repair or otherwise correct conditions. In Columbus, 465 orders were issued, of which 210 were raze orders.

The cities of Ironton, Portsmouth, East Liverpool and Wellsville were also given special attention with similar results in proportion to their size.

In Cuyahoga County, altogether, there were 1,115 inspections made; 1,090 orders issued. Of these, 804 were to raze the buildings. This was for the whole year.

In Franklin County, for the same period, 1,164 inspections were made, on which 1,121 orders were issued, 478 of which were to raze the buildings.

The removal of these fire-traps is bound to result in a reduction in the number of fires, and the improvement of conditions which must result therefrom, is equally bound to be followed by a lowering of insurance rates in the affected areas.

SOME POINTS OF LAW CLEARED UP.

In the trial of persons charged with arson or similar crimes, where the cases have been worked up by the department, attempt is frequently made by attorneys who have little or no other defense, to show that the fire marshals have exceeded their authority or abused their powers. This, of course, is merely to prejudice the jury trying the case. But occasionally, the attorney himself may overdo the thing in trying to save his client.

Such was the case in a trial which took place in Miami County. So strong was the effort to show that the fire marshals had abused their

authority that the Court, Judge Jones, felt called upon in his charge to the jury to define the rights and powers of the fire marshal in the investigation of an incendiary fire.

Following is the portion of the charge referred to:

"Now, there are some instances in this particular case in which it is necessary for the court to instruct you as to the law of the State of Ohio with regard to the duties of the Fire Marshal. The state has wisely enacted beneficial laws for the prevention of fires and the detention and punishment of incendiaries, and has employed a staff of officers who have taken an oath to discharge the duties of that position, and in investigating the fire which took place at the Friller store in Piqua, the officer or officers who were so engaged were doing their sworn duty and were in the line of their duty and had not only the absolute right, but were compelled to commence and carry out the investigation which they did. Under the express provisions of the Statute of Ohio they had a perfect right to conduct the examination in private, to exclude any person they saw fit to exclude, and they were not required to admit counsel for the party accused or to suggest to him that he was entitled to counsel. They were required to reduce the examination to writing. They are further required, if the evidence taken by them justifies them in the suspicion that any person, any witness before them is guilty, to cause him immediately to be taken into custody without stopping to procure a warrant for his arrest. They are authorized and empowered to bring a witness before them, to interrogate him in the presence of other witnesses or alone. In short, under the laws of the State, for the benefit not only of the State, but sometimes of the accused person, the Fire Marshal has the right to conduct this investigation in secret; the power given him in that respect is greater than that of this court if this court were pursuing an investigation of the crime. The fire marshals have the right to subject all witnesses brought before them to a rigid examination or even a protracted one, and to urge them to tell the truth, and, as already mentioned, as the law exists in the State, were not even forbidden to make the statement to them as to other evidence that is in existence against the witnesses, or any one of them even although the statement was not true and not correct. And if all that was done by the Fire Marshal in the present instance and this working with him to bring about this confession was along the lines already just mentioned to you, the confession so obtained by them is voluntary and you have the right and it is your duty to consider it as evidence in this case against the defendant. On the other hand, if you find that the Fire Marshals threatened that unless he confessed they would arrest and prosecute his wife, or they promised if he would confess he would receive immunity or light punishment, and that it was the only way to save himself and wife and child from exposure, disgrace and punishment, and as a result of such threats or inducements held out he was influenced and induced to make a confession which he otherwise would not have done, then in the eyes of the law, such confession is regarded as involuntary and cannot be used against the defendant, and cannot be considered by you in this case for any purpose, and especially not to convict the defendant."

Attorneys have also frequently sought to get hold of the testimony taken by the fire marshals in these investigations. We have always refused to comply with such requests, holding that the statute exempted such records from general perusal.

At the trial of the Cecil Uible case in Wilmington, in November, Uible's counsel made a demand on the prosecution for the testimony that had been taken by the officers who investigated the case. The prosecutors refused to comply with the demands. In the absence of the jury, the matter was argued to Judge West, and at the conclusion of the argument, the Court announced that, in his opinion, the defense was not entitled to inspect the testimony taken by the fire marshals and that he could not lawfully order the counsel for the State to turn it over to them.

RECOMMENDATIONS.

The subject of "personal responsibility for fires" has attracted much attention lately and has been widely discussed, not only by those directly interested in fire prevention, but by many commercial and other bodies as well. The liability of a person, in damages, for any injury by fire, through his negligence, to another, has always been clear enough at common law. But discussion of the subject has developed the view that the matter might be brought more forcibly to the mind of the individual if the principles of the common law were crystallized into statute form. It has also seemed just that one who, through his negligence has caused a fire, should pay the cost of its extinguishment. The right of a municipality to collect such expense, probably does not exist at common law. Accordingly, a bill has been drawn, and attempt was made to have it passed by various legislatures, defining liability for damage caused by fires, either started, or allowed to spread, through negligence, and also providing for a right of action on the part of the public for the cost of fighting the fire.

This measure has my fullest and heartiest approval and I am of the opinion that such a measure should be submitted for consideration at the next meeting of the General Assembly.

The following is a copy of the proposed measure :

"Any person, firm or corporation, for any fire caused by, resulting from, or spreading by reason of the negligence of such person, firm or corporation, or caused by, resulting from, or spreading by reason of noncompliance with any law or ordinance, or lawful regulation or requirement of, or by any state or municipal authority, shall be liable in damages to any person, firm or corporation injured thereby, for all loss, expense or damage caused by or resulting from such negligence or noncompliance; and shall be further liable for any expense incurred by any municipal or other governmental agency in extinguishing or attempting to extinguish any fire so caused, resulting or spreading."

In view of the fact that it can have no personal bearing, so far as I, myself, am concerned, I wish to recommend that the salary of the State Fire Marshal be raised from the present figure of \$3,000.00 to not less than \$4,000.00.

There are several reasons why this should be done:

1. The office is one of considerable responsibility and the salary should be something near an adequate compensation for the responsibilities and labor involved.

2. The salary should be equal, approximately, at least, to those of officers holding positions of similar importance.

3. The office was created in 1900 and the salary placed at \$3,000.00 and has never been increased.

4. The duties of the office, and the amount of work done have increased many times in recent years over what they were in the early years of the department's operation.

5. The department is engaged in a work of conservation, and is supported by a special tax, and does not cost the general taxpayers of the state a cent for its support.

Other reasons might be given in support of this recommendation but these, it seems to me, are sufficient.

TABLES.

The usual statistical tables, together with brief histories of the various crimes for which prosecutions were had, are also included in this report.

Respectfully submitted,

E. R. DEFENBAUGH,
State Fire Marshal.

HISTORIES OF CASES IN WHICH CONVICTIONS WERE HAD IN THE YEAR 1914.

JOHN JENNINGS, of Zanesville, Muskingum County, operated a restaurant in that city and on December 21st and December 25th, 1913, made two attempts to burn the building.

The first fire was discovered by a Mrs. O'Brien, owner of the building, who lived upstairs.

The fire department was called and a great amount of smoke and gas was found upon its arrival at the scene of the fire. This fire was in the basement under the restaurant and was soon put out.

The second fire was also discovered by Mrs. O'Brien, she being awakened by the odor of smoke and gas and, when the department was called this time, they found that the fire was in the kitchen in the rear of the dining room under a table. After the fire was extinguished, the odor of gas attracted the attention of the firemen and they found that the gas pipe leading from the meter to the coffee urn was broken off, the break being a fresh one, and the gas jet burning about six feet from the broken pipe.

The early discovery of the fire doubtless saved the building from being blown up by gas explosion, with the possible deaths of several people.

When the matter was investigated by representatives of the department, Jennings made a confession of his guilt, was arrested, bound over and later entered a plea of guilty in the Common Pleas Court and was sentenced to the Ohio Penitentiary.

LEROY G. BURROUGHS, a young man of Marion, set fire to his dwelling on April 19th, 1913.

Representatives of the department were called to investigate the case and, after looking into it carefully, concluded that Burroughs had set the fire.

He later confessed his guilt and assigned as his motive the fact that he was in financial difficulties and thought that, if he could get the insurance, it would relieve him from some of his troubles.

He was arrested and later indicted on the charge of burning to prejudice the insurer, entered a plea of guilty and was sentenced by the court to the State Reformatory.

PHILLIP SASSO, of Collinwood, Cuyahoga County, owned and occupied a one-story and a half frame building and set fire to it on August 7th, 1913.

Investigation by the department convinced the officers that Sasso was guilty. He had attempted to mislead them by writing a letter to himself in which threats were made that the building would be burned.

Before prosecution was begun on Sasso on the arson charge, he was arrested for carrying concealed weapons and for that he was given a term in the workhouse.

In the meantime, he had been indicted on the charge of burning to prejudice the insurer and, during his confinement in the workhouse, he decided to change his plea to guilty, so, in Common Pleas Court, he entered a plea of guilty and was sentenced to the Ohio Penitentiary.

CHARLES PRILLER, of Miami County, conducted a store in the city of Piqua.

On the night of August 8th, 1913, the place was discovered on fire.

In April of that year, it was claimed that some one had entered Priller's house and robbed him of one hundred and sixty-five dollars, among which was a check for seven dollars. This check was later returned to Mr. Priller and on it was written "If you are not satisfied with this, I will give you some more".

A week from the night of the robbery, the house was set on fire and the testimony disclosed that Mr. and Mrs. Priller came downstairs that

morning, while the house was burning, fully dressed and with a suitcase which was packed. That fire was never reported to this department.

Later on, another fire was discovered in the grocery, close to a hot-plate which they had been notified to disconnect and which they had failed to do.

No report was made of that, but the fire on August 8th was reported to the department and, on investigation, Priller confessed his guilt. He stated that he entered through the resident part of the building and went into the cellar and set some waste paper and boxes on fire with a match, for the purpose of burning the goods with the intent of getting out of business.

Priller was indicted both for arson and burning to prejudice the insurer and, after a trial on the arson charge, he was found guilty and later sentenced to the Reformatory at Mansfield. This decision was later affirmed by the Circuit Court of Appeals.

MARSHAL WILSON, a "hobo" painter, set fire to the National Pretzel Company Bakery, at Hamilton, October 4th, 1913.

He had tried to get some pretzels and had been refused. The matter seemed to have weighed upon his mind considerably; so he decided to burn down the factory.

The matter was investigated by the department and it was found that two small boys had seen Wilson in the neighborhood about the time of the fire.

The case was rather a difficult one but Wilson was bound over after a plea of guilty and was later tried and the jury disagreed. Afterwards, Wilson came into court and entered a plea of guilty and was sentenced to the Ohio Penitentiary.

FRANK E. BENNETT, of Stark County, set fire to an unoccupied dwelling house, owned by Mr. Harvey Blaucher. The building was located a mile south of Canal Fulton in Stark County.

Bennett gave himself up in this instance and confessed his guilt, assigning as a reason for his deed that he was tired of the life he was living, being without a home and continually wandering around — frequently, without food — and stating that, by firing the house and giving himself up, he would be sure of something to eat and a place to sleep.

He was indicted by the grand jury and, while in jail, aroused the sympathies of the Y. M. C. A. and the court took the rather unwarranted action of parolling him in the custody of the Y. M. C. A.

He remained there for about three months and worked faithfully but shortly disappeared.

Later, he was apprehended and sentenced to the Ohio Penitentiary.

ADAM KUREK, of Lorain, set fire to the building in which he was living November 22nd, 1913, for the purpose of obtaining the insurance on his household goods.

Kurek had formerly lived at Paterson, N. J., and had recently moved to Lorain. He rented a house there and went and obtained some furniture and then took out insurance to the amount of \$350.00 on November 13th.

On investigation by the department, he made a confession of his guilt and stated that, as he could not find the kind of work that suited him and having the insurance policy in his pocket, he thought it would be an excellent plan to have a fire and realize the money on the insurance. He stated that he had had this in mind for two days and, on the night of November 22nd, he carried his plan into execution.

He was arrested and bound over to the grand jury and at first entered a plea of not guilty, which he changed later to guilty, and was sentenced to the Ohio Penitentiary.

ROSE KNOX, of Marietta, set fire to a building belonging to Julia Cadwallader and occupied by Mr. and Mrs. Louis Mugridge December 27th, 1913.

It seems that one of Mrs. Mugridge's children had found a fifty-cent piece in the street on Christmas morning and the Knox woman claimed the money but could not identify the place where it was found. At the time, she was intoxicated and she was told to sober up and that the matter would be inquired into. Later, she came again to the Mugridges and demanded that she should be given the coin and again was refused. Later on, in order to secure some sort of revenge, she started the fire against the side of the Mugridge home. Fortunately, this was extinguished before much damage was done and, on investigation, she was arrested and waived preliminary examination. She was afterwards indicted and on arraignment entered a plea of guilty to a charge of arson in the Common Pleas Court.

WILLIAM JOHNSON, of Youngstown, set fire to a dwelling house owned by Frank Hailey December 21st, 1913.

A fight had occurred shortly prior to the fire and Johnson, who lived in the house, threw a lighted lamp at his wife, which exploded and set fire to the building, causing considerable damage.

Johnson was shortly apprehended and was bound over to the grand jury on the charge of malicious destruction of property. He was later indicted and, in Common Pleas Court, entered a plea of guilty and was given a fine of one hundred dollars and costs and was sentenced to jail until the fine and costs were paid.

JAMES M. WILLIAMS, of New Castle, Coshocton County, set fire to his dwelling house on December 21st, 1913.

On investigation by representatives of the department, Williams confessed his guilt, assigning as his motive that he desired to obtain the insurance and did not realize that there was anything wrong about such a proceeding.

He was bound over to the grand jury. Before any action was taken by that body, he was taken into the Probate Court on a lunacy affidavit and by that tribunal was adjudged insane and committed to the State Hospital at Massillon.

SAMUEL HENSEL, of Perry County, an inmate of the Infirmary of that county, on January 21st, 1914, set fire to that institution.

Investigation was made by a member of the department. Considerable difficulty was met with in ascertaining the facts but later Mr. Hensel made a complete confession.

He was arrested and confined in the Perry County jail where the matter was taken up by the Prosecuting Attorney and Probate Judge. On examination by physicians, Hensel was pronounced insane and was ordered committed to the State Hospital at Athens.

ANTHONY BETLEJEWSKI, a pupil of the Sacred Heart of Jesus School, in Cleveland, started two fires in the school on January 7th and 19th, 1914. Anthony is a young boy fourteen years of age and, after very careful investigation by the department and close questioning of himself, made a confession that he was guilty of setting the fires. He stated that he did not like the school and ran away frequently; also that, when he absconded, the teacher and priest would whip him and his father and brother would whip him at home.

He stated that, on the night of January 7th, he got an oil can, went to a store and bought a half gallon of oil and then went to the school, got in the rear door going upstairs and down the front stairs into the room next to the front and on the side away from the church, gathered all the material he could and poured oil on it, took a match and set fire to the materials he had gathered. He then ran away after jumping out a window on the side away from the church.

On January 19th, about 8:30 p. m., he returned and again attempted to set fire to the building.

Anthony claims that he had no advice from any one as to his actions and he simply did it because he did not like to go to school.

He was taken into Juvenile Court and by that tribunal sentenced to the Boys' Industrial School at Lancaster.

*RALPH VAN GUNDY, of Chillicothe, a feeble-minded boy, was apprehended in connection with a series of incendiary fires which had taken place in that city in the month of January, 1914.

Van Gundy confessed to one of these fires and was bound over to the grand jury. In the meantime, he was taken into the Probate Court where he was adjudged to be feeble-minded and was committed to the institution for that class of defectives.

NEIL GRIFFITH, of Chillicothe, was taken into custody in that city in January, 1914, after what might almost be termed a reign of terror. There had been seventeen fires, all apparently of incendiary origin, in a period of twenty-four days. The citizens of Chillicothe were absolutely terrorized, some of them going to the length of employing special night watchmen to guard their premises.

The department was called upon for assistance in the matter and, in conjunction with the local authorities, placed Griffith under arrest. One of the members of the department, with Mayor Cahill of that city, after a long interview with Griffith, obtained from him a confession of his guilt as to several of the fires.

This young man also had a bad record but was extremely popular among certain people in the city of Chillicothe.

He was bound over to the grand jury and later indicted on seven charges of arson. He was placed under heavy bond and the case aroused much interest in the city. Strong efforts were made by his counsel to obtain his release on bond but they were all frustrated and Griffith was brought finally to trial on one of the charges.

After a trial lasting almost ten days, he was found guilty and sentenced to the Ohio Reformatory at Mansfield.

Efforts to obtain his release did not even then cease and his counsel sought to obtain a stay of execution from the Circuit Court, in which they failed, and he was committed to the institution.

Since his apprehension, there have been no incendiary fires reported in the city of Chillicothe.

LEROY CLOUD, a boy fourteen years of age, of Dayton, was in the habit of setting fire to waste paper in alleys and the matter was called to the attention of the department.

Investigation was made which developed the fact that Cloud had been guilty of this practice and the matter was taken up with the Assistant Prosecutor of Montgomery County, who has charge of cases in Juvenile Court. He was taken before the Juvenile Judge and sentenced to the Boys' Industrial School.

CHARLES ROWLINSON, of Hardin County, set fire to an onion storage belonging to James Lattimer, October 16th, 1913.

At the time the matter was first investigated, nothing could be developed which would warrant action by the department but, some months later, investigation was taken up by other members of the department,

and in the course of which Rowlinson was taken into custody and later made complete confession of his guilt.

He stated that Lattimer, who was a friend of Rowlinson, had expressed the opinion that it would be of considerable advantage to him if the onion storage were located somewhere else and Rowlinson took this as a warrant to set fire to the building. He was placed in jail to await action by the grand jury and later indicted.

While he was still in jail and before final arraignment, he made another statement to representatives of the department that he had set fire to the building at Lattimer's instigation and that Lattimer had given him money with which to leave the community.

Rowlinson pleaded guilty in Common Pleas Court and was sentenced to the Ohio Reformatory.

FRANK STONEROCK, of Worthington, Franklin County, set fire to a shoe-shop which he operated in that village, March 23, 1914.

The matter was investigated the following day by representatives of the department and, after thorough examination, Stonerock admitted his guilt, assigning as the motive that he desired to obtain the insurance. He was taken before a magistrate and bound over to the grand jury, stating at the time that at the trial he would plead guilty. However, when he was arraigned on an indictment in the Common Pleas Court, he entered a plea of not guilty and the trial was had. In the course of the trial, Mrs. Stonerock gave testimony on which she later was indicted for perjury.

Stonerock was found guilty and was sentenced to the Ohio Penitentiary.

HENRY and MARY E. GLOVER, husband and wife, formerly residents of the city of New Philadelphia, set fire to a building, which they owned and which had been unoccupied for some time, in that city, April 25th, 1914.

This was a large building, which had at one time been used as a saloon and also as a grocery, situated on the outskirts of New Philadelphia. The building had been vacant as Mr. and Mrs. Glover had moved and were living at Youngstown.

On the night of April 25th, they came to New Philadelphia and set fire to the building.

When the matter was investigated by members of the department, it was found that fires had been started in several places in the building and Mr. and Mrs. Glover were traced from town to town on the route between Youngstown and New Philadelphia.

A perfect case of circumstantial evidence was made against them and they were taken into custody.

They were afterwards indicted and finally came into court, both entering pleas of guilty to the charge of burning, with intent to prejudice an insurer, and were sentenced to the Ohio Penitentiary.

CHARLES IRWIN, of Crawford County, set fire to the contents of the safe of the Gledhill & Kime Lumber Company, at Crestline, March 17th, 1914.

The matter was reported to the department and investigation made in the course of which Irwin admitted that he had entered the building and broken into the safe and had set fire to the contents.

He was placed under arrest and bound over to the grand jury, by which body he was afterwards indicted on a charge of burglary, that being considered the stronger case against him, and on his arraignment, he entered a plea of guilty and was sentenced to the Ohio Penitentiary.

HARVEY STRADLEY, of Licking County, set fire to a two-story frame building belonging to himself, March 18th, 1914. The dwelling was located at Hickman's Corners, in that county.

On investigation by a member of the department, Stradley confessed that he had set fire to the building himself, assigning as his reason that he wished to collect the insurance money and erect a hall where the former building stood.

He was arrested and brought before the Mayor of Newark, where he pleaded guilty and was bound over to the grand jury under a fifteen hundred dollar bond.

Before the matter could be disposed of finally, in the Common Pleas Court, his relatives filed an affidavit in lunacy against him and, on examination by physicians, he was adjudged insane by the Probate Court and was committed to the Ohio State Hospital.

JACOB BOWERS and HARRY ROOF set fire to a watch house belonging to the Big Four Railroad, in Marion, Ohio, March 22nd, 1914.

The matter was investigated by the department and it developed that it had been the custom of a certain crowd of young men to get intoxicated and then go into this shed and remain there the balance of the night.

Bowers and Roof were members of this gang and it finally developed that they were the guilty parties.

Upon being confronted with the evidence against them, they confessed their guilt. Inasmuch as the building was of less value than fifty dollars, a felony charge could not be placed against them; so they were arrested on the charge of malicious destruction of property and, upon entering a plea of guilty to this charge, were fined twenty-five dollars each and costs.

HUGH CAUFIELD, of Cincinnati, was arrested on a charge of having set fire to a storage shed belonging to A. Braun & Son, April 5th, 1914.

There had been a number of fires in the vicinity and investigation had satisfied members of the department that Caufield was guilty. The prop-

erty in this case was not worth fifty dollars so it was necessary to charge him with malicious destruction of property.

In the Police Court of Cincinnati, he was found guilty and fined twenty dollars and costs, which he was unable to pay, and was committed to the city workhouse.

JOHN WALTERS, of Cuyahoga County, set fire to two box cars belonging to the New York, Chicago and St. Louis Railroad, one being located at 117th Street and another at Lorain Avenue. The fires occurred on April 19th, the first at ten a. m. and the second at two p. m. The fires were extinguished before very much damage was done.

Walters was seen running away from the second fire. He was taken into custody and on being examined, confessed that he had set both fires, claiming that he was somewhat intoxicated at the time and that another man had suggested to him that he set the first fire. Walters was later bound over, indicted and in the Common Pleas Court entered a plea of guilty and was sentenced to the State Reformatory at Mansfield.

AUGUST RICHTER, of Cleveland, set fire on March 7th, 1914, to a building belonging to the Zettelmeyer Coal Company and again on the 14th another fire took place at the same plant.

The matter was investigated by the Cleveland members of the department and, after the second fire, Richter was taken into custody. On being examined by members of the department, in conjunction with Chief Whyler, of the Cleveland Fire Department, he confessed that he had set both fires.

The motive he assigned is one that is met with occasionally by this department, namely, that he was anxious to obtain a position and set the fires in order to impress on the management of the company the necessity of having a night watchman.

Richter was placed under arrest but, before his case was disposed of in the regular course, he was taken into the Probate Court where he was adjudged insane and was committed to the Cleveland State Hospital.

ROY E. SIZER, of Cleveland, confessed to having set two fires on April 22nd and 23rd in the storehouse occupied by F. H. Jackson and an addition to the railway station of the New York, Chicago & St. Louis Railroad.

Investigation by members of the department convinced them that one of the volunteer firemen might have had some connection with the fires. They got hold of Sizer, who at first strongly maintained his innocence but, finally, confessed that he had started both fires. He assigned as a motive that he was a member of the Volunteer Department and received two dollars for every fire he attended and he wished to get the money.

He was later taken into the Common Pleas Court where he entered a plea of guilty but, in consideration of the small damage that had been done and the young man's previous good record, the Court having found that he had never been guilty of any misconduct before, sentenced him to thirty days and costs and held him on parole.

ROBERT ADAMS, of Delphos, Van Wert Company, set fire to a frame dwelling house belonging to Levi Adams' Heirs, December 4th, 1913.

Adams had made a number of threats to burn the property. His grievance was that he had a claim of one hundred and sixty-five dollars against the estate for taking care of an elder brother, who had died a short time previous. An administrator was then appointed and Adams became very angry and made his threats concerning the destruction of the building.

He was arrested and bound over to the Van Wert County Grand Jury but, before his case was finally disposed of in the Common Pleas Court, it was found that he was insane and he was taken before the Probate Court and by that tribunal was committed to the State Hospital at Toledo.

JOSEPH FINGERHUTH, of Tiffin, Seneca County, started three fires at different points in that city, on the night of June 9th, 1914.

Mr. Fingerhuth was a man of some means and had been a very well-to-do citizen but had become subject to the use of morphine and alcohol in excessive quantities.

Suspicion was directed at him and the evidence being conclusive in the minds of the assistants who investigated the case, they all satisfied themselves that his mental condition was such as to make him irresponsible; so an affidavit was filed in Probate Court and he was committed to the State Hospital at Toledo.

PASQUALI EZZO, of Columbus, set fire to a barn in the rear of the residence occupied by Mr. and Mrs. W. M. Smith, June 3rd, 1914.

Ezzo had formerly worked for Smith and, about a year prior to that, Smith had sold a property to him. Ezzo paid three hundred dollars and was to pay thirty dollars a month as rent until the remainder of the purchase price was paid. He failed to keep up his payments and, about the time of the fire, came to Mr. Smith, complaining that he was out of work and would be compelled to leave the city. He asked that Mr. Smith take the property back and pay him what was coming to him — deducting the rent. This was done and a payment of fifty dollars was paid to Ezzo and debts assumed to the amount of forty dollars.

Later that day, Ezzo became dissatisfied with the arrangement and returned to the Smith residence and demanded more money. He was

refused and when leaving seemed very angry. This was shortly before the fire.

On investigation, the assistant who had the matter in charge became convinced of Ezzo's guilt but, on looking for him, it was discovered that he had gone to Pittsburg. He had shipped his goods to Allegheny and, by this means, he was traced.

The Pittsburg police arrested him and representatives of the department went after him. He made a confession of his guilt, pleaded guilty in the Police Court and was bound over to the grand jury and later entered a plea of guilty to the charge of arson in the Common Pleas Court and was sentenced to the Ohio Penitentiary.

LOUIS BARTEK, of Belmont County, attempted to set fire to a barn belonging to the Hutchinson Coal Company, in that county, June 19th, 1914.

Bartek had a claim against the company and had threatened that, unless they settled, he would get even with them. After he had set fire to the barn and was coming down the hill from it, he met a boy going towards it and told him not to go up there because the barn was on fire and that they might suspect the boy of setting fire to it. The boy asked who had set fire to the barn and Bartek said that he had. Bartek also told his attorney that there was no use in having a trial as he had set fire to the barn.

He was bound over to the grand jury but, before the case was finally disposed of in Common Pleas, he was taken into the Probate Court where he was adjudged insane and committed to the State Hospital at Columbus.

AUGUST DEITSCH and HARRY MYERS, of Franklin County, set fire to some bed-clothing and other property belonging to Capital Tavern, in the city of Columbus.

These men had been drinking and it was while they were still under the influence that the fire occurred.

The matter was investigated by the department and, considering that no damage was done to the building, a charge of malicious destruction of property was placed against them before a Magistrate and to this they pleaded guilty and were fined.

DURBAN WARD WOLF, of Pickaway County, set fire to a dwelling house belonging to himself, which was occupied by Mrs. Charles Goodwin.

Wolf had occupied one room of the house for his own personal use. The fire occurred on the 17th and Wolf had not been at the house since the 15th.

Investigation disclosed that, on the day of the fire, he drove in, hitched his horse near the house, took a can of gasoline from the buggy and entered the building, throwing the contents of the can near an open

stairway and striking a match which started the fire successfully and then leaving the building.

When Mr. Wolf was interviewed, he admitted that he had burned the building and gave as his reason his desire to get rid of the occupants, whom he seemed to think were not taking proper care of his interests.

Affidavit was filed against him, charging him with burning the property to prejudice the insurer but, before action could be had, his relatives had a lunacy charge placed against him in Probate Court, by which tribunal he was adjudged insane and committed to the State Hospital

MAY VAN DUSEN, of Canton, set fire to her hair dressing parlors, June 28th, 1914.

After the matter had been very thoroughly investigated and Miss Van Dusen had been closely questioned, she finally confessed that she had set the fire. She stated that she had been laboring under a severe-mental strain for several days and, finally, that she concluded the best way out of her trouble was to burn her apartments and die in the ruins.

After a consultation with the local authorities, it was concluded the best thing to do was to take her to the Probate Court and have an inquest in lunacy. This was done and she was adjudged insane by the Probate Court and was placed in the custody of her brother.

ELMER MINER, a young boy of Cleveland, Ohio, was taken into custody in connection with the fire which occurred August 2nd, in that city.

Miner was seen just a short time before the fire was discovered in the barn.

About a year before this, Fire Warden Ferrie had investigated a fire which had taken place in the Miner home. There had been a number of fires in the region where this one took place and Miner had been guilty of other depredations.

He was taken into the Probate Court after it was determined that he was probably mentally defective and there he was ordered committed to the Institution for the Feeble-minded at Columbus.

FRANK BUSHONG set fire to his dwelling in Lima, July 12th, 1914. When the matter was investigated by members of the Department, Bushong confessed his guilt and stated that his health had been bad and had been getting worse that Spring and he had the insurance and decided, without consulting anybody else, that he would set fire to the building for the purpose of obtaining the money. He stated further that his wife was going away and that he thought that would be a good time at which to set the fire.

It developed later that Bushong had had two other fires — one at Ft. Wayne, Indiana, and the other in Findlay, claiming, however, that he had no insurance on his household goods at the time of these fires.

On being indicted and arraigned in the Common Pleas Court, he entered a plea of guilty and was sentenced to the Ohio Penitentiary.

FRED THIEMAN, of Columbus, Ohio, set fire twice to the dwelling occupied by him and his wife. Thieman had not been working for several months. His wife had supported him and worked regularly.

On the day of the fire, which was September 2nd, Thieman had been drinking considerably and became very angry because some collector had tried to collect a bill from him, which he claimed he did not owe. In the evening, because he had not prepared supper — their working arrangement being that she was to work out and support the family while he was to look after the household work — he had some difficulty with his wife.

There were two distinct fires in the place but they were speedily extinguished. He was arrested and arraigned in Police Court but, from his appearance, the Court thought that the matter was more properly one within the jurisdiction of the Probate Court. He was taken for examination before the Probate Court and was by that tribunal adjudged to be an epileptic.

CHARLES RITTENHOUSE, of Auglaize County, set fire to a dwelling house belonging to Mrs. Josephine Summer, August 5th, 1914.

Rittenhouse had been working for Mrs. Summer but could not get along very well with another employe on the place.

He set fire to both the barn and the house at different times. On investigation by members of the department, he finally confessed that he was responsible for the fires. The other man had scolded him that day and, in his confession, he stated that made him angry. He concluded to revenge himself by setting fire to the house.

He was arrested and later indicted by the grand jury and, on entering a plea of guilty in Common Pleas Court of Auglaize County, was sentenced to the State Reformatory at Mansfield.

NEWTON TUCKER, of Miami County, made several attempts to burn his own home, and threatened to burn the houses of his neighbors. It developed that Tucker was probably of unsound mind, after an investigation was made by a representative of the department, and he was, therefore, taken into Probate Court, where an inquest of lunacy was held. He was adjudged insane and committed to the Dayton State Hospital.

WILLIAM BRYANT, Russell Brewer, Clarke Walker, Doc Ishman and Stanley Faulsh, of Portsmouth, Scioto County, were young boys who played around a barn owned by Mr. P. H. Harshey. Several barn fires took place within a short time in the neighborhood. The boys were taken into custody, and Bryant confessed. They were given a hearing in the Juvenile Court on charges of delinquency, and the Court held them on probation.

MAURICE GOUCHER, of Mahoning County, set fire to a barn belonging to Hanna Shaffer, for the purpose, evidently, of concealing the theft of a horse. The matter was called to the attention of the department, and Goucher was arrested on both charges of horse-stealing and arson. He was later indicted on both charges, and was tried on the horse-stealing charge, convicted, and sentenced to the Ohio penitentiary.

MRS. WENDA LEWIS, of Cleveland, Ohio, who lived in an apartment house, set fire to the laundry room in the building on May 17th, 1914. She had been having some trouble with her husband, and had stated that she was going to return to the state of New York, from which she had come. She had packed up a lot of belongings and was ready to move. The fire occurred on Sunday evening, and she had been downstairs to call on some friends below and had taken with her a couple of bottles of beer. While there, the husband of the woman whom she was visiting stated that he knew a place where Mrs. Lewis' husband might obtain some work. Mrs. Lewis went upstairs, and her husband came down. She followed a few minutes later and asked permission to use the phone, which was in another room. She went to the phone, and almost immediately reported that she heard some noise upstairs. On investigation by the people whom she was visiting, it was discovered that the building was on fire. Mrs. Lewis had only left that part of the house a few moments before. She was taken into custody, but her case, it was thought, would be better handled in the probate court, so a hearing was had there, and she was committed to the Cleveland State Hospital.

JOHN ATKINSON, of Columbus, Ohio, set fire to a building which he occupied, September 1, 1914. Atkinson was conducting a butcher shop and had gotten into financial difficulties, and early in the morning on that day set fire to it. His shop was mortgaged. When the matter was investigated, Atkinson confessed his guilt, assigning as a reason for his act that he had been in bad health and had had business disappointments, and thought that if he burned the stock, the insurance would settle the claim of the mortgagee. He was arrested and taken into police court, where a misdemeanor charge was placed against him. He entered a plea of guilty to malicious destruction of property, and was fined fifty dollars, and was sentenced to sixty days in the workhouse.

ED. O'DAY, of Columbus, set fire to an old dwelling house located at 452 W. Maple St., that city, October 24, 1914, and again on October 25th. The first fire was started on the inside, and the latter outside the house. O'Day had been intoxicated, had gone to the premises, and after breaking up dishes, mirror and household goods to some extent, set a bed on fire, and left. The fire department came and extinguished the fire. The following night he made a second attempt by putting coal

oil along the west side of the house and lighting it. That was extinguished by the occupants and neighbors before much damage had been done. The property being of probably less value than fifty dollars, and the contents of very little value, it was concluded a misdemeanor charge was the greatest that could be placed against O'Day, so he was charged with malicious destruction of property in police court, and on being arraigned, entered a plea of guilty, and was sentenced to thirty days in the workhouse.

WILLIAM FOUGHT, on September 12, 1914, set fire to the dwelling house of C. H. Mylander in Ottawa County. Mylander was Fought's brother-in-law. The motive of the fire was evidently to conceal the theft of some jewelry and old coins belonging to Mylander. He exhibited these things around Oak Harbor shortly after the fire. Fought claimed he bought the articles from a couple of tramps whom he did not know, and could not describe. Fought had been under arrest and had served time in the workhouse for other offenses. He was arrested, bound over to the grand jury, later indicted, and, after trial, was found guilty, and sentenced to the Ohio penitentiary.

PAUL DOVER, a young boy of Columbus, October 4th, 1914, set fire to a wagon in a wagon shed in the rear of 442 Mt. Vernon Avenue. Investigation disclosed that this boy had been sadly neglected by his parents. He had been at a picture show, upon leaving which, he was pretending to be drunk, and went to the rear of the picture show, where the wagon stood, and started a fire in a bunch of hay in the rear end of the wagon, after which he ran away. The boy has caused considerable trouble in the neighborhood. He was taken into juvenile court on a charge of delinquency, and there it was deemed advisable that he be committed to the Boys' Industrial School at Lancaster.

MRS. ROSE ECTON, a colored woman of Norwalk, Ohio, set fire to the dwelling which she occupied on October 7, 1914. When the matter was investigated by members of the department, she stated that she had set the fire, that she had saturated every room except the kitchen with coal oil, that she was dissatisfied with the way she was living, as her husband was working out of the city, and away from her most of the time. Mrs. Ecton was at one time a victim of the drug habit, but professed to be cured. From her actions and conversation, the officers came to the conclusion that she was of unsound mind, but nevertheless, filed an affidavit charging her with arson. When arraigned before the mayor, she said, "I done it, and am glad of it." She was bound over to the grand jury under five hundred dollars bond. Later on, it was determined that her case was one for the probate court rather than the common pleas, and that she was properly a charge of Cuyahoga County. The matter

was taken up by the prosecutor with the probate judge's office of Cuyahoga County, and she was there removed, and adjudged insane and committed to the Cleveland State Hospital.

SAM ROTHMAN, a young boy of Cleveland, set fire to a dwelling belonging to Isadore Hamberg and William Rothman, September 26, 1914. When the matter was investigated by the department, Rothman confessed that after his father and mother were in bed, he had gotten up and gone down stairs to the cellar. There was a mattress there which was torn and some straw sticking out, and he stated that he set fire to that, then went to another part of the cellar and lit some papers that were lying there. He then remembered that the second cellar was filled with wood, and became frightened, so he ran to the nearest fire station and reported the matter to the captain. The captain at first did not believe him, but accompanied him, and Rothman pointed out the place. Rothman assigns as his reason for starting fires that he liked to see them and liked to see the fire departments run. He was taken into juvenile court, and there adjudged delinquent, and assigned to the detention home to be removed at the first opportunity to either the State Institution for Feeble-Minded or the Boys' Industrial School.

GEORGE FOLKS and LEONARD FOLKS, brothers of Lima, burned the dwelling house occupied by George Folks on October 6th, 1914. Leonard set the fire, but did it at George's instigation. A fire had previously occurred on the 11th day of July in the house occupied by George Folks. When the matter was investigated by the department, after considerable questioning, George Folks admitted that he had induced his brother to set the fire, and, later on, Leonard admitted his guilt. They were bound over to the grand jury, were later indicted, and, on being arraigned in common pleas court, entered pleas of guilty, and were sentenced to the Ohio Penitentiary. The motive in this case was to obtain insurance on household goods.

DAN SHOOP, a farmer of Hancock County, living near McComb, had two fires on his place, the first being in a barn on August 8th, and the second in his residence on September 9th, 1914. The fires were of mysterious origin, and several letters were written into the department by different people concerning them. The matter was investigated by the department and all the evidence pointed to Shoop as being guilty himself. Shoop finally confessed his guilt, stating that he had had some difficulty with his wife, as she had agreed to pay a portion of the purchase price of the farm and had failed to keep her part of the agreement. He admitted that he had burned both the barn and the house. He was taken into custody on a charge of burning to prejudice the insurer, but before his case could be finally disposed of in common pleas court, his

physical condition made it necessary that some disposition be made of him, and he was committed to a private sanitarium.

HELEN SPENCE, Youngstown, Ohio, a young girl, daughter of Mr. and Mrs. Warren Spence, set fire to their dwelling on the evening of November 9th, 1914. This child had not been well treated by her parents, so the neighbors reported. The matter was investigated by a member of the department to whom she stated that her father and mother had left her that evening and had gone to a picture show. She claimed that while looking for some clothing, she accidentally dropped a match and set the closet on fire. When she had done this, she concluded that it would be a good thing if the whole house could burn down, so she went into another room and set the bed on fire. She then laid down in front of the stove near the closet, but when the smoke began to choke her, she became frightened and ran to a neighbor's house and told then somebody had set fire to their dwelling. She stated that her mother had treated her very badly. She was taken into juvenile court on a charge of delinquency, and was committed to the Girls' Industrial School.

MRS. CHARLES STEWARD, of Vinton County, set fire to a log dwelling occupied by herself and her husband, November 16, 1914. When the matter was investigated by the department, Mrs. Steward confessed her guilt and implicated her husband, stating that he had compelled her to do it, as he had a grievance against a man by the name of Teeters, whose mother owned the house. There were no other circumstances to sustain Mrs. Steward's claim that her husband was implicated, and both were arrested and bound over to the grand jury, and Mrs. Steward was later indicted by that body. No evidence was adduced sufficient to justify an indictment of Steward. When arraigned, she entered plea of guilty, and was remanded to the Vinton County jail to await sentence.

HARRY GAGE, Robert French, Willis Milligan and Albert Nelson, four inmates of the Institution for Feeble-Minded, at Columbus, set fire to a frame hay and straw storage building on the premises of that institution on September 8th, 1914. Their only motive seems to have been a desire to see the engines go. All of them being mental defectives, the only punishment that could be meted out to them was their removal to the state farm at Orient, to which they were taken.

JOHN SYLVESTER, in company with Peter Serb, went into a vacant building belonging to the Cleveland and Youngstown Railroad Company on September 2nd, 1914. They were tramps, and were anxious to get in out of the cold. After getting in the building, they started a fire on the floor inside the house, which set fire to it, and burned up some of the flooring, without other damage. Sylvester was arrested and arraigned

in the municipal court, and sentenced to twenty-five dollars and costs and thirty days in the workhouse. Serb managed to escape. The reason for the misdemeanor charge against him was that the building had been condemned by the State Fire Marshals department, and, consequently was of little value.

ALBERT FLORIO, on December 13th, 1914, set fire to a dwelling occupied by Blanche Smith, in the city of Cleveland. Florio had been rooming at the house and was somewhat back in his room rent, and had some trouble with the lady of the house who reported the matter to the police, and had ordered him out. Afterwards he became very much enraged, and threatened to kill Miss Smith, and also burn the house down. On the night of the 13th, he came to the house, broke in some of the windows of Miss Smith's room, and later on, came back and threw oil over her bed and set fire to it. He was seen in the act. The fire was quickly extinguished, doing no damage to the house, and he was brought before the municipal court on a misdemeanor charge and sentenced to a fine of twenty-five dollars and costs and thirty days in the workhouse.

PAUL ZICHARELLI, July 7th, 1914, set fire to a barn occupied by a Mr. Harris, with whom he had had some trouble. Investigation showed that Zicharelli and Harris had had a disagreement, and that Zicharelli had threatened to get even. This barn was first set on fire at one-thirty A. M., and when the second fire took place about three o'clock, it was found that a horse had been stolen. Zicharelli was arrested on a charge of arson and also horse-stealing, was bound over to the grand jury, tried and found guilty, and sentenced to the Reformatory at Mansfield.

CECIL UIBLE, of Westboro, Clinton County, conducted a store in the Odd Fellows' building in that village. He carried insurance to the amount of twenty-eight hundred dollars, and was heavily in debt, and had started to erect a new building across the street and was anxious to get into it with an entirely new stock. On October 27th, 1913, a fire occurred in the building. Investigation was made, but nothing developed at that time, but in February 1914, Joseph Berger made a complete confession to having started the fire, stating that he had done so at Uible's request, and went into details as to the manner in which the fire was started. Both Uible and Berger were arrested, bound over to the grand jury, and later indicted. Uible was tried and sentenced to the Mansfield Reformatory. Later on, this conviction was reversed by the circuit court, and the case was retried in November 1914. Uible was again convicted and sentenced to the Ohio Penitentiary.

JOSEPH BERGER, who confessed to having set fire to the store operated by Cecil Uible, at Westboro, whose case is mentioned above, entered a plea of guilty, and was sentenced to the Ohio Penitentiary.

CHARLES COUCHIE, set fire to his dwelling in East Palestine on September 2nd, 1914, for the purpose of obtaining the insurance. Couchie was heavily in debt, and the property was mortgaged. He had carried a policy with one company which was due to expire in 1918, but in June took an additional \$175.00 insurance on the contents of the building.

Couchie is a young man, only twenty years of age, and not of the strongest mentality. When the matter was investigated by a member of the department, Couchie finally confessed that he had set fire to the building, his purpose being to obtain the insurance. Couchie had told his mother the Sunday before that he was going to burn the house down, stating that he thought it was all right, and if he could obtain the insurance money he might get a fresh start.

He was arrested, bound over to the grand jury, indicted, and on being arraigned, entered plea of guilty, and was sentenced to the Reformatory at Mansfield.

ANDREW BORKA, a young boy of Cleveland, set fire to a dwelling occupied by Harry Rubin, September 21, 1914. The fire department, on arriving at the scene of the fire, found that the room in which it was located, was covered with papers soaked in coal oil. A hole had been burned through the floor, but quick action on the part of the fire department speedily quenched the flames.

Investigation by the department in conjunction with the local Fire Wardens developed that Andrew Borka had made some statements concerning the fire. He was brought to the fire marshal's office in Cleveland, and finally admitted that he was responsible. He stated that he had gotten a ladder, climbed in a window of the Rubin home, threw oil on the papers and lighted them with a match. He gave as his reason that he did not like those particular Jewish people, and thought he would get even with them. Borka showed a tendency to set fires, from what could be learned of him, and had been in the habit of starting bonfires and lighting carbide in his yard, and any other. He was taken into juvenile court, and by that tribunal committed to the House of Correction.

HARRY and CLAUDE HOUSEMAN, sons of A. B. Houseman, of Fletcher, Miami County, set fire to a barn on the premises occupied by their father on August 27th, 1914. Their motive was simply to see the barn burn.

When the matter was investigated by a member of the department, it was found that they were responsible for two other fires on the same farm, which, however, were not serious.

The boys were taken before a justice of the peace who sent them to the juvenile court at Troy, by which court they were placed on probation in consideration of their youth.

W. W. BULLIS, of Columbus, set fire to a dwelling house occupied by his wife and son from whom he was living apart, on February 13, 1914. Bullis had been drinking on the morning of the fire, and seemed to be temporarily demented. He entered the house, piled furniture in the center of the room, saturated it with coal oil and set it on fire. His son, who was living with his mother, discovered the fire and turned in the alarm. On the arrival of the fire department, Bullis was found standing in the room striking matches and lighting the curtains. He offered one of the firemen five cents to help him burn the house, and afterwards tried to get others to assist him. A police officer, recognizing that Mr. Bullis was insane, took him to the police station for investigation. Later, an affidavit of lunacy was filed against him, and on hearing in the probate court, he was adjudged insane, and committed to the Columbus State Hospital.

IRENE SHEPARD, an inmate of a house of questionable repute in Columbus, started three fires in the building on the night of March 9th, 1914. She had been drinking excessively for some days and had been reprimanded by the proprietress of the place, and on the evening of the fires, had been ordered to leave. Investigation developed that there was no question about her responsibility for the fires, and she was taken into the police court where she was found guilty and sentenced to the workhouse.

ORVILLE BURKETT, of Tippicanoe City, Miami County, Ohio, attempted to burn the Saul Livery Barn on February 1st, 1914. When investigation was made, Burkett, who was nightwatchman at the Saunders Tobacco Warehouse, claimed that he had seen some one taking waste out of a box-car and into the livery barn, and striking several matches, and when he called to him that the party ran away. When the matter was called to the attention of the department, and the investigation made, Rush was brought in, and finally confessed that he had made the attempt to set the fires himself in order to place Saul brothers under obligations to him; that he had previously purchased a horse from them and was still owing them some money, and thought that if he saved them from this fire they might not press him for the money. He was taken before the Mayor on a misdemeanor charge, who imposed a fine of twenty-five dollars and costs.

STATISTICAL STATEMENT.

Statement of facts gathered by this office will be found in the following tables:

- TABLE NO. 1—Number of fires and loss by months, 1914.
- TABLE NO. 2—Classification of property and damage to each.
- TABLE NO. 3—Summary of causes with property loss from each.
- TABLE NO. 4—Classification of property burned and causes.
- TABLE NO. 5—Incendiary fires by months, 1914.
- TABLE NO. 6—Number of fires, their character and amount of loss, by counties.
- TABLE NO. 7—Number of fires, value, loss, per cent of loss to value jeopardized, loss per capita, and insurance carried, as shown by cities.
- TABLE NO. 8—Showing number of inspection made, the number and nature of orders issued, and the number of orders complied with, by counties.
- TABLE NO. 8—Prosecution for arson, by counties.
- TABLE NO. 10—Convictions classified by motives.
- TABLE NO. 11—Financial statement.

TABLE NO. 1.

Number of Fires and Loss by Months, 1914.

January	557	\$632,449
February	698	705,529
March	705	753,894
April	494	450,449
May	579	1,157,873
June	599	783,633
July	694	820,956
August	502	591,489
September	480	490,934
October	415	301,855
November	704	571,214
December	606	628,892
Total	7,033	\$7,889,167

TABLE NO. 2.

Classification of Property and Damage to Each.

<i>Property.</i>	<i>Number of Fires.</i>	<i>Damage to Buildings and Contents.</i>
Apartments	120	\$34,448
Bakeries	26	22,692
Barber shops	16	7,725
Barns and stables.....	945	1,026,740
Blacksmith shops	18	4,350
Churches	43	78,450
Club and lodge rooms.....	29	13,470
Dry cleaners	28	43,835
Dwellings	3,430	1,464,744
Flats	125	46,030
Garages	96	140,358
Hotels	35	44,374
Kitchens	10	3,015
Laundries	12	8,570
Liveries	19	46,139
Manufactories	298	1,206,487
Meat markets	15	8,455
Moving picture shows.....	32	93,589
Offices	99	254,410
Poultry houses	27	2,845
Printing shops	8	57,130
Restaurants	29	23,592
Rooming houses	32	7,064
Saloons	23	4,266
School houses	63	82,817
Sheds	343	36,932
Shops	76	54,585
Stores	590	1,692,587
Tailor shops	6	5,673
Tool houses	19	5,870

TABLE NO. 2—Concluded.

<i>Property.</i>	<i>Number of Fires.</i>	<i>Damage to Buildings and Contents.</i>
Warehouses	112	268,091
Automobiles	99	36,254
Cars, railway and electric.....	102	80,093
Lumber yards	45	694,596
UNCLASSIFIED.		
Auditoriums	1	\$1,500
Banks	2	8,370
Boats	4	8,330
Boat houses	5	660
Boiler houses	2	9,575
Bottling houses	1	5,000
Butterine rooms	1	50
Cable boxes	2	250
Court houses	1	50
Creameries	1	5,500
Derrick scow	1	5
Dormitories	1	795
Electrical signs	1	40
Elevators	2	75,035
Fencing	1	5
Fish hatchery	1	20,500
Fish houses	1	1,000
Foundries	1	200
Freight houses	1	265
Green houses	1	1,100
Grist mills	2	60,000
Halls	2	730
Hay and straw stacks.....	5	219
Hay fields	1	5
Hay wagons	1	100
Ice houses	1	1,075
Lime kilns	1	5
Locker houses	1	350
Market houses	1	25
Monuments	1	500
Oil cars	1	110
Packing houses	2	15,672
Power houses	1	150
Pumping stations	1	75
Railroad ties	2	200
Round houses	1	145
Shoe repair shops.....	1	25
Smokehouses	1	5
Stock yards	2	63,625
Studios	1	1,000
Switch towers	1	4,000
Tar kettles	1	5
Theatres	1	3,120
Totals	7,033	\$7,889,167

TABLE NO. 3.

Summary of Causes with Property Loss from Each.

<i>Cause.</i>	<i>Number of Fires.</i>	<i>Damage to Buildings and Contents.</i>
Adjoining	506	\$528,276
Ashes vs. wood.....	37	37,624
Burning rubbish and bonfires.....	199	48,283
Clothes from stove.....	78	25,319
Coals from stove.....	26	6,255
Defective flue	612	392,805
Drapery from stove.....	9	10,484
Electric wire	162	495,126
Films ignited	13	5,305
Friction	16	25,277
Gas explosion	127	187,476
Gas jet	105	45,797
Gasoline explosion	179	110,552
Gasoline stove	41	42,111
Gasoline torch	52	65,849
Hot plate	38	8,981
Incendiary	198	235,118
Kerosene lamp	79	31,339
Kerosene stove	39	23,575
Kettle grease or tar.....	52	27,939
Lightning	233	359,799
Match carelessness	524	165,346
Match by child.....	299	141,864
Match, by rat or mouse.....	73	43,919
Rubber hose connection.....	26	5,297
Rubbish ignited	27	95,355
Smokehouses	25	7,885
Smokers' carelessness	216	268,330
Spark from chimney.....	634	156,757
Spark from locomotive.....	134	723,846
Spark from smokestack.....	23	20,788
Spark from traction engine.....	20	16,267
Spontaneous combustion	272	635,210
Suspicious	72	200,207
Tramps	64	70,105
Unknown	932	1,555,273
Woodwork from flue.....	11	2,822
Woodwork from furnace.....	135	472,039
Woodwork from heater.....	26	33,768
Woodwork from stove.....	340	274,444
Woodwork from stove-pipe.....	51	24,421
Unclassified	328	261,934
Totals	7,033	\$7,889,167

TABLE NO. 4.
Classification of Property Burned and Causes.

Property.		Causes.	Number of Fires.
Apartments	120	Adjoining	12
		Ashes vs. wood	1
		Burning rubbish	1
		Clothes from stove	4
		Coals from stove	3
		Defective flue	3
		Electric wire	2
		Gas explosion	2
		Gas jet	2
		Gasoline explosion	1
		Incendiary	1
		Kerosene lamp	1
		Kettle, grease or tar	1
		Lightning	1
		Match carelessness	26
		Match by child	5
		Match, rat or mouse	1
		Rubbish ignited	1
		Smokers' carelessness	5
		Spark from chimney	1
		Spontaneous combustion	5
		Unknown	21
		Woodwork from furnace	3
		Woodwork from heater	2
		Woodwork from stove	5
		Unclassified	10
Bakeries	26	Adjoining	2
		Defective flue	4
		Gas explosion	2
		Gas jet	1
		Gasoline stove	1
		Kettle, grease or tar	2
		Smokers' carelessness	1
		Spark from chimney	1
		Spontaneous combustion	1
		Unknown	2
		Woodwork from flue	1
		Woodwork from furnace	1
		Woodwork from heater	2
		Woodwork from stove	5
Barber shops	16	Adjoining	1
		Burning rubbish	1
		Clothes from stove	1
		Defective flue	1
		Gas explosion	1
		Gasoline stove	2
		Incendiary	1
		Rubber hose connections	1
		Smokers' carelessness	1
		Unknown	2
		Woodwork from furnace	2
		Woodwork from stove	1
		Unclassified	1
Barns and stables	945	Adjoining	66
		Ashes vs. wood	3
		Burning rubbish	66
		Defective flue	8
		Electric wire	8

TABLE NO. 4 — Continued.

Property.		Causes.	Number of Fires.
Barns and stables — Concluded.		Friction	1
		Gas explosion	2
		Gasoline explosion	3
		Gasoline torch	2
		Incendiary	52
		Kerosene lamp	1
		Kerosene stove	1
		Kettle, grease or tar	1
		Lightning	162
		Match carelessness	38
		Match by child	54
		Match, rat or mouse	11
		Rubber hose connections	1
		Rubbish ignited	1
		Smokers' carelessness	28
		Spark from chimney	9
		Spark from locomotive	24
		Spark from stack	3
		Smoke from traction engine	10
		Spontaneous combustion	38
		Suspicious	22
		Tramps	31
		Unknown	269
		Woodwork from flue	1
		Woodwork from furnace	2
		Woodwork from heater	1
		Woodwork from stove	7
		Woodwork from stove pipe	2
		Unclassified	17
Blacksmith shops	18	Adjoining	1
		Ashes vs. wood	1
		Defective flue	2
		Electric wire	2
		Lightning	1
		Match carelessness	2
		Smokers' carelessness	1
		Spark from chimney	5
		Unknown	1
		Woodwork from furnace	1
		Woodwork from stove pipe	1
Churches	43	Adjoining	3
		Burning rubbish	2
		Defective flue	4
		Electric wire	4
		Gasoline torch	1
		Lightning	4
		Match carelessness	1
		Smokers' carelessness	1
		Spark from chimney	2
		Unknown	3
		Woodwork from furnace	11
		Woodwork from stove	6
		Unclassified	1
Club and lodge rooms	29	Adjoining	2
		Clothes from stove	1
		Defective flue	2
		Electric wire	3
		Gas explosion	3
		Gasoline explosion	1

TABLE NO. 4—Continued.

Property.	Causes.	Number of Fires.
Clubs and lodge rooms—Concl'd.	Lightning	1
	Match by child.....	1
	Match, rat or mouse.....	1
	Smokers' carelessness	2
	Spontaneous combustion	3
	Unknown	4
	Woodwork from furnace.....	1
	Woodwork from stove.....	2
	Woodwork from pipe.....	1
	Unclassified	1
Dry cleaners 28	Clothes from stove.....	1
	Defective flue	1
	Electric wire	1
	Friction	2
	Gas explosion	5
	Gasoline explosion	8
	Gasoline stove	1
	Incendiary	1
	Match carelessness	1
	Spontaneous combustion	1
	Unknown	2
	Woodwork from stove.....	2
	Unclassified	2
Dwellings 3,430	Adjoining	189
	Ashes vs. wood.....	14
	Burning rubbish	38
	Clothes from stove.....	55
	Coals from stove.....	17
	Defective flue	519
	Drapery from stove.....	6
	Electric wire	40
	Gas explosion	59
	Gas jet	72
	Gasoline explosion	45
	Gasoline stove	34
	Gasoline torch	35
	Hot plate	24
	Incendiary	55
	Kerosene lamp	59
	Kerosene stove	30
	Kettle, grease or tar.....	14
	Lightning	43
	Match carelessness	288
	Match by child.....	153
	Match, rat or mouse.....	39
	Rubber hose connections.....	13
	Rubbish ignited	11
	Smokehouses	4
	Smokers' carelessness	66
	Spark from chimney.....	553
	Spark from locomotive.....	42
	Spark from stack.....	1
	Spark from traction engine.....	4
	Spontaneous combustion	72
	Suspicious	21
	Tramps	8
	Unknown	299
	Woodwork from flue.....	4
	Woodwork from furnace.....	71

TABLE NO. 4 — Continued.

Property.	Causes.	Number of Fires.
Dwellings — Concluded.	Woodwork from heater.....	9
	Woodwork from stove.....	186
	Woodwork from pipe.....	30
	Unclassified	208
Flats 125	Adjoining	28
	Ashes vs. wood	1
	Burning rubbish	1
	Clothes from stove.....	2
	Defective flue	5
	Electric wire	1
	Gas explosion	1
	Gas jet	1
	Gasoline torch	1
	Hot plate	2
	Incendiary	2
	Kerosene lamp	1
	Kettle, grease or tar.....	1
	Match carelessness	36
	Match by child.....	8
	Match, rat or mouse.....	2
	Rubber hose connections.....	1
	Rubbish ignited	2
	Smokers' carelessness	5
	Spark from chimney.....	4
	Spark from locomotive.....	1
	Spontaneous combustion	3
	Unknown	9
	Woodwork from heater.....	2
	Woodwork from stove.....	2
	Unclassified	3
Garages 96	Adjoining	5
	Burning rubbish	4
	Coals from stove.....	1
	Defective flue	1
	Electric wire	13
	Gas explosion	1
	Gasoline explosion	26
	Gasoline torch	2
	Kerosene lamp explosion.....	1
	Match carelessness	6
	Match by child.....	1
	Rubber hose connections.....	1
	Smoker's carelessness	3
	Spark from chimney.....	1
	Spark from locomotive.....	1
	Spontaneous combustion	6
	Suspicious	1
	Unknown	13
	Woodwork from stove.....	6
	Woodwork from stove pipe.....	2
	Unclassified	1
Hotels 35	Adjoining	4
	Clothes from stove.....	1
	Defective flue	1
	Electric wire	1
	Gas explosion	1
	Gas jet	2
	Incendiary	1
	Kettle, grease or tar.....	1

TABLE NO. 4—Continued.

Property.		Causes.	Number of Fires.
Hotels—Concluded.		Match carelessness	5
		Match by child	1
		Smokers' carelessness	5
		Spark from chimney	1
		Spontaneous combustion	2
		Unknown	2
		Woodwork from furnace	1
		Woodwork from stove	3
		Woodwork from stove pipe	1
		Unclassified	2
Kitchens	10	Defective flue	1
		Gasoline explosion	1
		Kerosene stove	1
		Kettle, grease or tar	1
		Match by child	1
		Rubber hose connections	1
		Smokers' carelessness	1
		Unknown	1
		Woodwork from stove	1
		Unclassified	1
Laundries	12	Ashes vs. wood	1
		Clothes from stove	1
		Gas explosion	2
		Hot plate	1
		Spontaneous combustion	1
		Unknown	1
		Woodwork from stove	3
		Unclassified	2
Livery barns	19	Adjoining	2
		Electric wire	1
		Friction	1
		Kettle, grease or tar	1
		Smokers' carelessness	2
		Spontaneous combustion	3
		Suspicious	1
		Unknown	6
		Unclassified	2
Manufactories	298	Adjoining	12
		Ashes vs. wood	3
		Burning rubbish	3
		Clothes from stove	2
		Coals from stove	1
		Defective flue	11
		Electric wire	18
		Friction	10
		Gas explosion	6
		Gas jet	2
		Gasoline explosion	8
		Gasoline torch	3
		Hot plate	3
		Incendiary	10
		Kettle, grease or tar	12
		Lightning	4
		Match carelessness	7
		Match, rat or mouse	2
		Rubbish ignited	1
		Smokehouse	1
		Smokers' carelessness	6
		Spark from chimney	17

TABLE NO. 4—Continued.

Property.		Causes.	Number of Fires.
Manufacturers — Concluded.		Spark from locomotive.....	7
		Spark from stack.....	8
		Spark from traction engine.....	1
		Spontaneous combustion	33
		Suspicious	6
		Unknown	38
		Woodwork from flue.....	2
		Woodwork from furnace.....	18
		Woodwork from heater.....	3
		Woodwork from stove.....	28
		Woodwork from stove pipe.....	4
		Unclassified	10
Meat markets	15	Adjoining	1
		Burning rubbish	1
		Defective flue	1
		Electric wire	1
		Hot plate	1
		Incendiary	1
		Kettle, grease or tar.....	1
		Match carelessness	1
		Rubbish ignited	1
		Smokehouses	3
		Suspicious	1
		Unknown	1
		Woodwork from stove.....	1
Moving picture shows.....	32	Adjoining	2
		Burning rubbish	1
		Defective flue	1
		Electric wire	2
		Films ignited	13
		Gas explosion	1
		Match carelessness	1
		Rubbish ignited	1
		Spontaneous combustion	1
		Unknown	5
		Woodwork from stove.....	3
		Unclassified	1
Offices	99	Adjoining	12
		Burning rubbish	2
		Clothes from stove.....	1
		Coals from stove.....	1
		Defective flue	1
		Drapery from stove.....	1
		Electric wire	10
		Friction	1
		Gas explosion	3
		Gas jet	4
		Gasoline explosion	3
		Gasoline torch	1
		Incendiary	5
		Kerosene stove explosion.....	2
		Kettle, grease or tar.....	1
		Lightning	2
		Match carelessness	2
		Rubber hose connections.....	2
		Smokers' carelessness	13
		Spark from chimney.....	2
		Spark from locomotive.....	1
		Spontaneous combustion	5

TABLE NO. 4—Continued.

Property.		Causes.	Number of Fires.
Offices — Concluded.		Tramps	2
		Unknown	6
		Woodwork from furnace	4
		Woodwork from heater	2
		Woodwork from stove	4
		Unclassified	6
Poultry houses	27	Burning rubbish	4
		Kerosene lamp	8
		Kerosene stove	1
		Match carelessness	1
		Match by child	3
		Spark from traction engine	1
		Spontaneous combustion	1
		Suspicious	2
		Unknown	3
		Unclassified	3
Printing shops	8	Adjoining	1
		Gas explosion	1
		Match by rat	1
		Rubbish ignited	1
		Spontaneous combustion	1
		Unknown	1
		Woodwork from furnace	1
		Woodwork from stove pipe	1
Restaurants	29	Adjoining	6
		Electric wire	1
		Gas jet	1
		Gasoline explosion	3
		Gasoline stove	1
		Incendiary	3
		Kettle, grease or tar	2
		Match carelessness	1
		Match, rat or mouse	2
		Rubbish ignited	1
		Spark from locomotive	1
		Spontaneous combustion	2
		Unknown	1
		Woodwork from heater	1
		Woodwork from stove	3
Rooming houses	32	Adjoining	1
		Clothes from stove	1
		Defective flue	2
		Gas jet	1
		Gasoline stove	1
		Gasoline torch	1
		Match carelessness	4
		Rubber hose connection	1
		Smokers' carelessness	7
		Spark from chimney	1
		Spark from traction engine	1
		Unknown	6
		Woodwork from furnace	1
		Unclassified	4
Saloons	23	Adjoining	2
		Defective flue	3
		Electric wire	1
		Gas explosion	1
		Gasoline explosion	1
		Incendiary	1

TABLE NO. 4—Continued.

Property.	Causes.	Number of Fires.
Saloons — Concluded.	Kerosene stove explosion.....	1
	Match carelessness	1
	Smokers' carelessness	2
	Spark from chimney.....	2
	Spark from stack.....	1
	Unknown	1
	Woodwork from stove.....	3
	Unclassified	3
	Defective flue	14
	Electric wire	1
School houses 63	Gas explosion	2
	Gas jet	2
	Incendiary	4
	Kettle, grease or tar.....	1
	Lightning	1
	Match carelessness	1
	Match, rat or mouse.....	1
	Rubbish ignited	1
	Smokers' carelessness	1
	Spark from chimney.....	9
	Spontaneous combustion	3
	Suspicious	1
	Unknown	10
	Woodwork from flue.....	1
	Woodwork from furnace.....	5
	Woodwork from stove.....	3
	Unclassified	2
Sheds 343	Adjoining	43
	Ashes vs. wood.....	4
	Burning rubbish	53
	Clothes from stove.....	2
	Coals from stove.....	1
	Defective flue	3
	Electric wire	1
	Gas explosion	1
	Gas jet	1
	Gasoline explosion	1
	Gasoline torch	2
	Hot plate	1
	Incendiary	10
	Kerosene lamp	1
	Kerosene stove	1
	Kettle, grease or tar.....	1
	Lightning	5
	Match carelessness	35
	Match by child.....	38
	Match, rat or mouse.....	2
	Rubbish ignited	1
	Smokehouses	14
	Smokers' carelessness	7
	Spark from chimney.....	9
	Spark from locomotive.....	10
	Spark from stack.....	2
	Spark from traction engine.....	1
	Spontaneous combustion	14
	Suspicious	1
	Tramps	5
	Unknown	50
	Woodwork from furnace.....	1

TABLE NO. 4 — Continued.

Property.		Causes.	Number of Fires.
Sheds — Concluded.		Woodwork from stove.....	14
		Woodwork from stove pipe.....	2
		Unclassified	6
Shops	76	Adjoining	3
		Ashes vs. wood.....	1
		Defective flue	2
		Electric wire	2
		Gas explosion	2
		Gas jet	2
		Gasoline explosion	3
		Gasoline torch	1
		Hot plate	2
		Incendiary	4
		Kerosene stove	1
		Kettle, grease or tar.....	1
		Match carelessness	4
		Match by child.....	1
		Rubbish ignited	1
		Spark from chimney.....	7
		Spark from locomotive.....	1
		Spontaneous combustion	11
		Suspicious	3
		Unknown	11
		Woodwork from furnace.....	1
		Woodwork from stove.....	9
		Woodwork from stove pipe.....	1
		Unclassified	2
Stores	591	Adjoining	75
		Ashes vs. wood.....	5
		Burning rubbish	13
		Clothes from stove.....	7
		Defective flue	24
		Drapery from stove.....	1
		Electric wire	28
		Gas explosion	28
		Gas jet	12
		Gasoline explosion	4
		Hot plate	3
		Incendiary	17
		Kerosene lamp	2
		Kerosene stove	1
		Kettle, grease or tar.....	6
		Lightning	4
		Match carelessness	51
		Match by child.....	15
		Match, rat or mouse.....	11
		Rubber hose connections.....	5
		Rubbish ignited	4
		Smokehouse	1
		Smokers' carelessness	49
		Spark from chimney.....	8
		Spark from locomotive.....	1
		Spark from stack.....	2
		Spontaneous combustion	36
		Suspicious	9
		Tramps	1
		Unknown	93
		Woodwork from flue.....	1
		Woodwork from furnace.....	9

TABLE NO. 4—Continued.

Property.		Causes.	Number of Fires.
Stores — Concluded.		Woodwork from heater.....	3
		Woodwork from stove.....	33
		Woodwork from stove pipe.....	6
		Unclassified	22
Tailor shops	6	Adjoining	1
		Defective flue	1
		Gas jet	2
		Smokers' carelessness	1
		Spontaneous combustion	1
Tool houses	19	Adjoining	2
		Gasoline explosion	1
		Incendiary	1
		Kerosene lamp	1
		Kettle, grease or tar.....	1
		Lightning	1
		Match by child.....	1
		Smokers' carelessness	2
		Spark from locomotive.....	2
		Spontaneous combustion	2
		Suspicious	1
		Unknown	4
Warehouses	112	Adjoining	9
		Burning rubbish	2
		Coals from stove.....	2
		Defective flue	2
		Drapery from stove.....	1
		Electric wire	2
		Friction	1
		Gas explosion	2
		Gasoline explosion	2
		Gasoline stove	1
		Gasoline torch	1
		Hot plate	1
		Incendiary	6
		Kerosene lamp	1
		Kettle, grease or tar.....	3
		Lightning	1
		Match carelessness	6
		Match by child.....	7
		Smokehouse	1
		Smokers' carelessness	1
		Spark from chimney.....	1
		Spark from locomotive.....	6
		Spark from stack.....	5
		Spark from traction engine.....	1
		Spontaneous combustion	11
		Suspicious	1
		Tramps	4
		Unknown	23
		Woodwork from flue.....	1
		Woodwork from stove.....	6
		Woodwork from stove pipe.....	1
Automobiles	99	Adjoining	6
		Burning rubbish	5
		Electric wire	11
		Gasoline explosion	65
		Incendiary	1
		Lightning	1
		Match carelessness	2

TABLE NO. 4 — Continued.

Property.		Causes.	Number of Fires.
Automobiles — Concluded.		Smokers' carelessness	2
		Spark from locomotive.....	1
		Unknown	3
		Woodwork from heater.....	1
		Unclassified	1
Cars, railway	102	Adjoining	3
		Ashes vs. wood.....	2
		Burning rubbish	1
		Electric wire	4
		Gasoline explosion	2
		Incendiary	15
		Kerosene lamp	2
		Kettle, grease or tar.....	1
		Match carelessness	2
		Match by child.....	3
		Smokers' carelessness	1
		Spark from locomotive.....	18
		Spontaneous combustion	1
		Tramps	10
		Unknown	27
		Woodwork from stove.....	6
		Woodwork from stove pipe.....	1
		Unclassified	3
Lumber yards and piles....	45	Adjoining	4
		Gas explosion	1
		Incendiary	7
		Match by child.....	3
		Smokehouse	1
		Smokers' carelessness	1
		Sparks from locomotive.....	13
		Spark from stack.....	1
		Spark from traction engine.....	1
		Spontaneous combustion	2
		Suspicious	4
		Tramps	3
		Unknown	4

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Property.		Causes.	Number of Fires.
Auditoriums	1	Woodwork from furnace.....	1
Banks	2	Adjoining	2
Boats	4	Gasoline explosion	1
		Unknown	3
Boat houses	5	Adjoining	4
		Unknown	1
Boiler houses	2	Boiler explosion	1
		Unknown	1
Bottling houses	1	Spark from locomotive.....	1
Butterine rooms	1	Unknown	1
Cable boxes	2	Electric wires	2
Court houses	1	Match carelessness	1

TABLE NO. 4—Concluded.

Property.		Causes.	Number of Fires.
Creameries	1	Woodwork from boiler.....	1
Derrick scow	1	Ashes vs. wood.....	1
Dormitory	1	Flat iron	1
Electric signs	1	Hot solder	1
Elevators	2	Lightning	1
		Spontaneous combustion	1
Fencing	1	Spark from locomotive.....	1
Fish hatcheries	1	Unknown	1
Fish houses	1	Unknown	1
Foundries	1	Spark from cupola.....	1
Freight houses	1	Woodwork from stove.....	1
Green houses	1	Spark from chimney.....	1
Grist mills	2	Spontaneous combustion	1
		Woodwork from exhaust pipe.....	1
Halls	2	Adjoining	1
		Lightning	1
Hay and straw stacks.....	5	Child playing with fire.....	1
		Match by child.....	3
		Unknown	1
Hay fields	1	Fireworks	1
Hay wagons	1	Unknown	1
Ice houses	1	Smokers' carelessness	1
Lime kilns	1	Woodwork from kiln.....	1
Locker houses	1	Spontaneous combustion	1
Market houses	1	Defective flue	1
Monuments	1	Careless with salamander.....	1
Oil cars	1	Gasoline torc h.....	1
Packing houses	2	Electric wire	1
		Spark from locomotive.....	1
Power houses	1	Smokestack falling	1
Pumping stations	1	Woodwork frob boiler.....	1
Railroad ties	2	Spark from locomotive.....	1
		Unknown	1
Round houses	1	Gasoline torch	1
Shoe repair shop.....	1	Kerosene lamp	1
Smokehouses	1	Burning rubbish	1
Stock yards	2	Fireworks	1
		Spark from locomotive.....	1
Studios	1	Electric wire	1
Switch towers	1	Unknown	1
Tar kettles	1	Tar boiling over.....	1
Theatres	1	Match carelessness	1
Totals	7,033		7,033

TABLE NO. 5.
Incendiary Fires by Months, 1914.

Months.	Value of Buildings.	Damage to Buildings.	Value of Contents.	Damage to Contents.	Number of Fires.
January	12,000	6,101	4,350	2,307	15
February	9,900	3,575	12,400	2,565	21
March	26,300	5,765	15,810	3,205	22
April	262,825	61,097	4,200	3,745	22
May	8,250	6,402	3,440	3,319	14
June	33,660	5,515	46,270	3,955	18
July	45,350	14,282	17,845	6,385	21
August	26,125	9,280	4,300	4,051	14
September	25,950	22,748	11,810	9,320	11
October	34,130	8,505	20,590	4,165	13
November	24,725	7,950	12,865	12,225	10
December	14,000	12,720	17,305	15,936	17
Totals	523,215	163,940	171,185	71,178	198

TABLE NO. 6.
Number of Fires, their Character and Amount of Loss by Counties.

County.	No. of Fires.	Value of Buildings and Contents.	Damage to Buildings and Contents.	Total Insurance.	No. of Incendiary Fires.	Incendiary Loss.	Wood.	Brick.	Total Losses.	Partial Losses.
Adams	16	\$37,765	\$24,165	\$23,375	...	...	14	2	5	11
Allen	91	1,016,855	79,440	323,560	4	\$2,235	76	15	12	79
Ashland	18	39,415	25,135	25,725	1	2,000	18	...	10	8
Ashtabula	62	300,820	78,305	151,450	...	...	57	...	14	48
Athens	33	63,500	24,905	40,975	...	...	29	4	13	20
Auglaize	23	57,163	12,093	33,250	3	5,075	21	2	6	17
Belmont	65	187,585	46,995	27,360	2	350	58	7	8	57
Brown	9	11,575	7,120	6,425	...	...	9	...	3	6
Butler	124	906,840	134,803	424,700	2	2,785	96	28	12	112
Carroll	9	17,650	15,550	8,725	1	900	9	...	7	2
Champaign	30	86,175	51,945	34,325	...	...	23	7	11	19
Clark	151	1,157,355	99,026	901,250	...	...	133	18	12	139
Clermont	15	32,945	23,485	22,525	...	...	12	3	8	7
Clinton	24	165,025	68,625	69,650	...	...	18	6	7	17
Columbiana	101	1,007,461	99,015	776,300	4	5,310	83	18	20	81
Coshocton	16	19,245	9,260	11,950	2	1,370	14	2	4	12
Crawford	32	71,320	18,550	36,175	1	135	28	4	11	21
Cuyahoga	1,619	17,638,800	1,612,160	9,797,799	55	29,324	1,264	355	291	1,328
Darke	64	202,860	57,165	116,740	...	...	58	6	27	37
Defiance	24	131,250	49,815	74,610	1	550	19	5	6	18
Delaware	22	38,145	19,335	21,260	...	...	20	2	12	10
Erie	75	909,995	141,895	533,925	1	10,000	63	12	14	61
Fairfield	41	132,989	53,734	76,975	...	...	36	5	12	29
Fayette	12	20,940	12,045	13,250	...	...	10	2	6	6
Franklin	321	1,741,606	197,780	1,094,325	13	8,055	222	99	36	285

TABLE NO. 6 — Concluded.

County.	No. of Fires.	Value of Buildings and Contents.	Damage to Buildings and Contents.	Total Insurance.	No. of Incendiary Fires.	Incendiary Loss.	Wood.	Brick.	Total Losses.	Partial Losses.
Fulton	27	53,725	19,735	33,830	2	2,500	25	2	5	22
Gallia	29	83,090	47,810	42,925	2	2,500	25	4	20	9
Geauga	7	7,930	4,845	4,550	1	1,000	7	1	4	3
Greene	14	110,225	63,790	71,150	1	3,250	12	2	5	9
Guernsey	14	32,450	25,460	19,350	1	3,250	14	183	6	8
Hamilton	472	5,475,775	747,937	3,828,452	1	1,200	289	6	33	439
Hancock	49	357,590	72,895	174,040	4	1,975	43	6	14	35
Hardin	35	114,520	46,280	55,775	1	1,700	29	1	12	23
Harrison	12	24,675	20,215	13,900	1	775	11	1	7	5
Henry	46	165,585	95,655	82,400	1	775	42	4	19	27
Highland	24	41,340	24,020	23,190	1	775	22	2	7	17
Hocking	13	14,945	9,605	4,075	1	775	13	1	5	8
Holmes	14	52,500	23,645	30,350	1	775	12	2	6	8
Huron	30	83,320	42,760	34,275	3	11,400	27	3	10	20
Jackson	45	145,175	31,285	75,560	1	10	42	3	12	33
Jefferson	54	234,795	58,825	107,275	2	1,300	46	8	9	45
Knox	28	98,100	34,590	53,650	2	1,300	24	4	11	17
Lake	21	58,400	29,050	29,050	1	1,300	21	1	6	15
Lawrence	40	116,355	29,570	64,850	2	1,315	33	7	12	28
Licking	47	294,705	43,490	99,515	4	9,584	41	6	12	35
Logan	44	131,250	29,565	68,850	1	85	39	5	9	35
Lorain	187	1,271,367	106,870	950,890	4	13,240	172	15	23	164
Lucas	551	5,049,690	318,800	3,228,230	7	3,370	443	108	35	516
Madison	27	84,420	30,130	42,250	1	775	22	5	4	23
Mahoning	178	2,048,768	177,058	1,389,970	13	6,780	145	33	19	159
Marion	57	494,155	46,940	1,125,695	5	8,490	47	10	9	48

Medina	34	66,035	27,435	32,475	.....	.....	.....	33	1	12	22
Meigs	27	115,100	45,775	62,525	.....	.....	.....	18	9	12	15
Mercer	28	54,295	29,595	26,380	.....	.....	.....	26	2	9	19
Miami	72	161,885	48,735	133,885	1	2,100	.....	66	6	10	62
Monroe	10	41,525	40,800	6,525	.....	.....	.....	10	.....	8	2
Montgomery	302	3,888,390	400,875	2,319,850	11	1,590	.....	228	74	24	278
Morgan	11	24,390	20,815	3,500	.....	.....	.....	11	.....	6	5
Morrow	12	11,710	11,710	7,150	.....	.....	.....	12	.....	5	7
Muskingum	37	132,705	8,585	49,250	1	1,050	.....	33	4	5	32
Noble	11	14,125	8,660	3,460	.....	.....	.....	11	.....	5	6
Ottawa	29	434,050	95,365	50,250	1	2,800	.....	24	5	10	19
Paulding	29	68,950	38,280	32,710	.....	.....	.....	27	2	11	18
Perry	14	32,635	20,740	10,725	.....	.....	.....	13	1	6	8
Pickaway	25	81,095	19,525	45,440	1	175	.....	19	6	6	19
Pike	13	29,505	10,185	9,750	1	550	.....	13	.....	4	9
Portage	33	182,950	29,855	43,565	1	3,000	.....	31	2	11	22
Preble	38	117,550	46,430	52,400	.....	.....	.....	30	8	15	23
Putnam	25	61,125	18,985	35,020	.....	.....	.....	23	2	6	19
Richland	80	1,015,510	128,510	502,915	3	180	.....	59	21	16	64
Ross	40	142,035	44,605	87,720	4	2,550	.....	35	5	13	27
Sandusky	41	99,400	22,190	61,560	3	1,400	.....	36	5	10	31
Scioto	87	352,785	256,710	192,380	.....	.....	.....	80	7	34	53
Seneca	63	316,550	38,175	149,635	3	540	.....	52	11	11	52
Shelby	41	422,140	254,575	234,750	2	165	.....	30	11	12	29
Stark	158	3,641,270	169,859	2,333,235	10	54,970	.....	128	30	16	142
Summit	237	2,527,700	270,693	1,761,190	3	1,855	.....	196	41	16	221
Trumbull	73	296,840	161,620	179,525	1	175	.....	68	5	21	52
Tuscarawas	76	335,782	47,749	213,340	3	685	.....	70	6	16	60
Union	41	88,815	25,107	46,665	1	1,350	.....	37	4	11	3
Van Wert	39	94,720	36,155	41,705	1	2,300	.....	36	3	7	32
Vinton	8	4,565	2,130	1,900	1	220	.....	8	.....	3	5
Warren	25	144,860	92,385	68,750	.....	.....	.....	22	3	11	14
Washington	37	115,475	39,815	55,825	.....	.....	.....	34	3	11	26
Wayne	44	335,970	86,585	241,450	3	21,750	.....	38	6	9	35
Williams	61	592,170	57,120	239,515	1	650	.....	48	13	12	49
Wood	43	121,250	70,443	68,075	.....	.....	.....	39	4	8	35
Wyandot	27	52,865	16,960	28,325	.....	.....	.....	24	3	5	23
Totals	7,033	\$53,768,186	\$7,889,167	\$34,783,421	198	\$235,118	.....	5,704	1,329	1,288	5,745

TABLE NO. 7.

Number of Fires, Value, Loss, Per Cent of Loss to Value Jeopardized, Loss per Capita and Insurance Carried, as Shown by Cities.

Cities.	Number of Fires.	Value of Buildings and Contents.	Loss on Buildings and Contents.	Per Cent of Values Jeopardized.	Loss Per Capita.	Total Insurance.
Akron	214	\$2,484,830	\$253,978	10½	\$3 68	\$1,734,685
Alliance	29	540,050	8,270	1½	0 55	317,100
Ashland	5	19,875	6,145	30.9	0 90	15,700
Ashtabula	10	89,300	8,465	9½	0 46	40,250
Athens	2	6,500	900	13½	0 16	3,400
Batavia	1	6,000	100	1½	0 01	8,000
Bellaire	17	73,360	12,965	17½	1 00	4,850
Bellefontaine	17	66,550	1,825	2.7	0 20	37,100
Bowling Green	10	38,630	26,600	68½	5 09	25,950
Bryan	31	418,795	5,930	1½	1 32	195,165
Bucyrus	4	9,900	1,375	13.9	0 17	5,800
Cadiz	2	5,600	2,250	4	1 13	4,150
Caldwell	2	4,600	900	19½	0 45	.....
Cambridge	2	1,850	200	10½	.....	1,000
Canton	84	2,748,545	80,524	2.9	1 60	1,740,530
Celina	10	19,615	215	1.1	0 06	11,550
Chardon	2	3,300	220	6½	0 14	1,600
Chillicothe	15	96,125	10,280	11	0 71	46,200
Cincinnati	399	4,995,215	692,692	14	1 90	3,662,617
Circleville	12	62,150	2,105	3½	0 31	34,225
Cleveland	1,541	17,200,000	1,539,905	8.9	2 74	9,558,949
Columbus	291	1,659,596	135,170	8½	0 74	1,066,900
Conneaut	9	76,185	6,935	9.1	0 84	38,600
Coshocton	7	11,215	3,285	29.3	0 34	8,800
Dayton	280	3,814,970	340,770	9	2 92	2,295,750
Defiance	21	122,500	41,065	33½	5 68	69,725
Delaware	5	17,000	1,190	7	0 13	9,200
E. Liverpool	37	684,366	8,560	1½	0 41	580,700
Eaton	12	48,095	2,335	4.9	0 73	29,900
Elyria	42	622,197	13,335	2½	0 90	495,250
Findlay	28	316,350	42,505	13½	2 22	151,610
Fostoria	17	72,800	6,170	8½	0 64	32,300
Fremont	13	55,125	11,980	21.7	1 20	37,000
Gallipolis	8	61,700	30,550	47½	5 63	35,525
Georgetown	2	3,275	420	12½	0 27	2,550
Greenville	20	128,995	8,815	6½	1 41	80,725
Hamilton	56	338,710	13,619	4.1	0 39	232,125
Hillsboro	6	2,855	1,570	5½	0 35	800
Ironton	23	100,625	14,570	14½	1 11	58,350
Jackson	25	117,695	9,830	8½	1 73	60,485
Kenton	9	49,450	1,835	3.7	0 25	22,100
Lakewood	38	239,765	10,195	4½	0 67	94,275
Lancaster	27	107,159	32,874	30½	2 51	63,775
Lebanon	2	5,700	40	7	0 015	3,500
Lima	61	875,910	46,890	5½	1 54	277,951
Logan	5	8,425	3,290	39½	0 73	900
London	12	60,295	8,100	13½	1 80	30,550
Lorain	114	528,330	25,510	4.7	0 88	386,425
McArthur	3	2,700	1,050	38½	1 00	1,200
McConnellsville ..	1	17,700	15,200	86	8 31	2,000
Mansfield	49	922,115	93,440	10½	4 50	447,065

TABLE NO. 7—Concluded.

Cities.	Number of Fires.	Value of Buildings and Contents.	Loss on Buildings and Contents.	Per Cent of Values Jeopardized.	Loss Per Capital.	Total Insurance.
Marietta	14	65,000	9,910	15½	0 77	32,000
Marion	51	485,155	43,950	9.1	1 91	119,535
Martins Ferry	32	69,750	1,685	2½	0 18	.....
Marysville	12	59,075	2,987	5.1	0 83	28,250
Massillon	20	289,800	44,565	15½	3 21	239,100
Medina	4	14,800	2,625	17½	0 87	8,150
Middletown	45	514,910	78,914	15.3	6 00	162,825
Millersburg	3	30,000	2,245	7½	1 12	21,000
Mt. Vernon	13	38,775	8,360	21½	0 89	20,400
Napoleon	18	78,420	24,055	30½	5 73	25,200
Newark	21	236,235	19,095	8½	0 76	76,550
New Lexington	1	100	5	5	.....	.....
New Philadelphia	12	23,265	6,290	2.7	0 74	14,590
Niles	15	64,150	1,950	3	0 23	37,300
Norwalk	10	33,800	17,800	52.7	2 25	14,750
Norwood	26	242,400	8,775	3½	0 54	98,100
Oak Harbor	3	8,200	740	9	0 37	4,250
Ottawa	9	16,025	1,685	10½	0 63	6,000
Painesville	12	31,550	7,180	22.7	1 29	19,700
Paulding	3	2,650	1,300	50	0 62	600
Piqua	43	93,625	30,900	33	2 31	89,275
Portsmouth	56	267,410	184,205	69	7 73	150,775
Ravenna	16	149,050	1,855	1½	0 35	24,400
Salem	20	113,200	30,845	27½	3 45	46,000
Sandusky	57	858,660	101,220	11½	5 09	508,975
Sidney	23	389,190	237,485	61	36 94	212,550
Springfield	141	1,136,180	83,716	7½	1 78	890,300
St. Clairsville	2	14,800	14,800	100	10 57	4,000
Steubenville	15	103,550	20,510	19½	0 89	52,800
Tiffin	32	207,900	4,530	2½	0 38	101,275
Toledo	542	5,000,100	308,510	6½	1 54	3,221,565
Troy	19	50,250	9,230	18½	1 51	33,910
Upper Sandusky	7	32,090	3,445	10.7	0 91	14,000
Urbana	16	42,350	23,575	55½	3 04	13,850
Van Wert	10	19,100	2,565	13½	0 36	10,675
Wapakoneta	5	23,288	343	1½	.....	20,800
Warren	19	59,100	5,485	9.3	0 46	49,400
Washington C. H.	4	12,300	3,605	29.3	0 46	11,150
Wauseon	14	26,900	4,570	17	1 72	14,200
Waverly	4	23,450	6,750	28½	3 74	8,700
Wellston	6	15,450	11,990	77½	1 71	7,325
W. Union	1	375	350	93½	0 34	125
Wilmington	6	81,825	3,855	4.7	0 80	13,900
Wooster	18	261,075	18,405	7	2 97	197,450
Youngstown	144	1,863,403	141,898	7½	1 79	1,305,675
Zanesville	28	120,050	5,355	4½	0.19	43,250
Totals	5,197	\$53,234,337	\$5,131,055	.....	.....	\$32,037,482

TABLE No. 8.

Showing number of inspections made, the number and nature of orders issued, and the number of orders complied with by counties.

County.	Number of Inspections made.	Orders Issued.			No. of Orders Complied with.
		No.	Raze.	Repair and Others.	
Adams	1	1	1	.....	1
Allen	85	84	20	64	75
Ashland	25	23	14	9	21
Ashtabula	86	82	12	70	70
Athens	38	37	14	23	32
Auglaize	51	45	5	40	44
Belmont	116	109	18	91	79
Brown	58	58	18	40	54
Butler	17	17	14	3	14
Carroll	9	6	1	5	4
Champaign	227	222	43	179	212
Clark	261	247	44	203	235
Clermont	81	76	23	53	67
Clinton	50	46	6	40	44
Columbiana	274	269	95	174	235
Coshocton	15	12	3	9	8
Crawford	61	53	22	31	44
Cuyahoga	1,115	1,090	804	286	914
Darke	71	70	8	62	61
Defiance	16	16	5	11	15
Delaware	20	20	8	12	18
Erie	31	28	16	12	26
Fairfield	100	98	47	51	91
Fayette	166	163	23	140	159
Franklin	1,163	1,121	478	643	1,075
Fulton	2	2	.....	2	2
Gallia	2	2	1	1	2
Geauga	15	14	3	11	7
Greene	3	2	1	1	1
Guernsey	56	54	11	48	47
Hamilton	392	356	222	134	348
Hancock	46	37	17	20	37
Hardin	227	126	32	94	118
Harrison	11	10	5	5	6
Henry	7	6	1	5	6
Highland	56	54	6	48	42
Hocking	40	40	8	32	40
Holmes	12	11	3	8	8
Huron	93	81	18	63	76
Jackson	4	3	1	2	1
Jefferson	25	25	5	20	24
Knox	151	141	35	106	122
Lake	73	70	21	49	60
Lawrence	70	68	46	22	43
Licking	154	133	40	93	108
Logan	256	242	56	186	225
Lorain	117	116	43	73	110
Lucas	78	74	40	34	70
Madison	30	29	4	25	25
Mahoning	237	220	141	79	219
Marion	50	46	15	31	46

TABLE NO. 8—Concluded.

County.	Number of Inspections made.	Orders Issued.			No. of Orders Complied with.
		No.	Raze.	Repair and Others.	
Medina	10	10	6	4	9
Meigs	12	11	4	7	9
Mercer	51	51	6	45	49
Miami	160	158	26	132	146
Monroe	9	9		9	8
Montgomery	60	55	6	49	37
Morgan	11	11	4	7	8
Morrow	15	15	8	7	14
Muskingum	55	54	17	37	48
Noble	1	1		1	1
Ottawa	19	16	2	14	15
Paulding	8	8	1	7	2
Perry	35	25	7	18	17
Pickaway	184	171	38	133	167
Pike	2	2	1	1	2
Portage	3	3	1	2	3
Preble	29	27		27	24
Putnam	15	15	3	12	11
Richland	120	117	46	71	105
Ross	281	279	72	207	265
Sandusky	89	56	11	45	53
Scioto	107	104	71	33	94
Seneca	154	129	27	102	129
Shelby	87	74	12	62	65
Stark	129	127	78	49	109
Summit	129	127	98	29	117
Trumbull	43	42	12	30	40
Tuscarawas	13	13	6	7	13
Union	30	27	3	24	26
Van Wert	38	38	14	24	34
Vinton	8	8	2	6	8
Warren	71	64	24	40	64
Washington	70	70	9	61	67
Wayne	28	26	12	14	25
Williams	7	6	3	3	6
Wood	52	49	7	42	47
Wyandot	45	43	13	30	41
Totals	8,524	7,996	3,167	4,829	7,269

TABLE NO. 9.
Prosecution for Arson by Counties.

County.	Confessions.	Warrants Issued.	Arrests.	Bound Over.	Failed to Bind Over.	Indictments.	Failed to Indict.	Acquittals.	Plead Guilty.	Convictions.	Pending.
Adams		1	1		1	1		1			
Allen	3	3	3	3		3	1		3	3	
Ashland											
Ashtabula	1	4	4	3		1	1				2
Athens											
Auglaize	2	1	1	1		1				1	
Belmont		1	1	1				1		1	
Brown											
Butler	1	1	1	1					1	1	1
Carroll											
Champaign											
Clark	1	1	1	1		1		1			
Clermont											
Clinton									1	2	
Columbiana	1	1	1	1		1			1	1	
Coshocton										1	
Crawford		1	1	1		1				1	
Cuyahoga	7	15	15	7		3	3		1	12	1
Darke											
Defiance											
Delaware											
Erie											
Fairfield											
Fayette		1	1	1		1					1
Franklin	9	12	12	4		3		1		14	2
Fulton						3		3			
Gallia											
Geauga											
Greene											
Guernsey											
Hamilton	1	2	2	1			1			1	1
Hancock	1	1	1	1						1	
Hardin	1	1	1	1		1			1	1	
Harrison											
Henry											
Highland											
Hocking								1			
Holmes											
Huron	1	1	1	1		1		1		1	
Jackson											
Jefferson											1
Knox											
Lake											
Lawrence											
Licking		1	1	1						1	
Logan											
Lorain		3	3	2	1	1	2		1	1	
Lucas		3	3	1		2					2
Madison											
Mahoning	1	2	2	1		2			1	3	
Marion		2	2			1	1		1	3	
Medina											

TABLE NO. 9 — Concluded.

County.	Confessions.	Warrants Issued.	Arrests.	Bound Over.	Failed to Bind Over.	Indictments.	Failed to Indict.	Acquittals.	Plead Guilty.	Convictions.	Pending.
Meigs											
Mercer											
Miami	2	4	4				1		1	5	
Monroe											
Montgomery	1	3	3	2						1	
Morgan											
Morrow											
Muskingum						1			1	1	
Noble											
Ottawa		1	1	1		1				1	
Paulding											
Perry		1								1	
Pickaway		1	1							1	
Pike											
Portage											
Preble											
Putnam											
Richland											
Ross	2	4	4	4		7	2			2	
Sandusky						1					
Scioto		5	5							5	
Seneca		1	1							1	
Shelby											
Stark	1	2	2	1			1			2	
Summit											
Trumbull		2	2	2			2				
Tuscarawas		2	2	2		2			2	2	
Union											
Van Wert		1	1	1						1	
Vinton	1	2	2	2		1			1	1	1
Warren											
Washington									1	1	
Wayne		1	1	1							1
Williams											
Wood											
Wyandot	3	3	3	3		3					2
Totals	40	91	90	52	2	43	16	9	17	74	15

TABLE NO. 10.

Convictions Classified by Motives.

To defraud insurance company.....	15	{ John Jennings, L. G. Burroughs, Phillip Sasso, Charles Priller, Adam Kurek, Charles Rowlison, Frank Stonerock, Henry Glover, Mary Glover, Frank Bushong, Charley Cowchie, George Foulks, Leonard Foulks, Joseph Berger, Cecil Uible.
Malice or revenge.....	8	{ Frank Bennett, Marshall Wilson, Pasquali Ezzo, Chas. Rittenhouse, John Atkinson, Stella Stewart, Albert Florio, Paul Zicharelli.

		Rose Knox, Wm. Johnson, Antony Betlejenski, Orville Burkett, Wm. Bryant, Russell Brewer, Stanley Faulsh, "Doc" Ishman, Chas. Walker, Irene Shephard, Leroy Cloud, Jacob Bowers, Harry Roof, Hugh Canfield, John Walters, Roy E. Sizer, August Deitsch, Harry Myers, Harry Houseman, Claude Houseman, Andrew Borka, Edward O'Day, Paul Dover, Samuel Rothman, Helen Spence, Harry Gage, Robert French, Willis Milligan, Albert Nelson, John Sylvester.
Malicious Mischief	18	
		Chas. Irwin, Morris Goucher, William Foright.
To conceal crime.....	3	
		J. M. Williams, Samuel Hensel, Ralph Van Gundy, Neal Griffith, Newton Tucker, W. W. Bullis, Harvey Stradley, August Richter, Robt. Adams, Mrs. Wenda Lewis, Joe. Fingerhott, Lewis Bartek, D. Ward Wolf, May Van Dusen, Elmer Miner, Frederick A. Thiemann, Rose Ecton, Daniel Shoop.
Pyromania and insanity.....*	30	

TABLE NO. 11.
Financial Statement.

The following is a summary of the receipts and disbursements since the filing of the last Annual Report:

Receipts	\$75,648 43
Expenditures	72,285 87
	<hr/>
Balance	\$3,362 56

OHIO FIRE MARSHAL LAW.

The Fire Marshal Law of Ohio reads as follows:

SEC. 820. The governor, with the advice and consent of the senate, shall appoint a fire marshal, who shall hold his office for a term of two years, and until his successor is appointed and qualified. The state fire marshal shall have his principal office in the city of Columbus.

State Fire
marshal, ap-
pointment
and term.

SEC. 821. The state fire marshal shall appoint a first deputy fire marshal, a second deputy fire marshal, and a chief assistant, each of whom he may remove for cause. He may employ such clerks and assistants, and incur such other expenses as are necessary in the performance of the duties of his office.

Deputies,
clerks and
assistants.

SEC. 822. The state fire marshal shall not engage in any other business. He or one of his deputies shall at all times be in the office of the state fire marshal ready for the performance of the duties required of him by law.

Attendance
at office.

SEC. 823. The deputy fire marshal and the chief assistant shall assist the state fire marshal in the discharge of his duties. During the absence or disability of the state fire marshal, the first deputy fire marshal, shall perform the duties of the office.

Duties of
deputy and
chief assist-
ant.

SEC. 824. The state fire marshal, the chief of the fire department of each city or village in which a fire department is established, the mayor of each incorporated village in which no fire department exists, and the township clerk of each organized township without the limits of a village or city, shall investigate the cause, origin and circumstances of each fire occurring in such city, village or township, by which property has been destroyed or damaged, and shall make an investigation to determine whether the fire was the result of carelessness or design. The investigation shall be commenced within two days, not including Sunday, if the fire occurred on that day, and the state fire marshal may superintend and direct the investigation if he deems it necessary.

Investigation
of cause of
fire.

SEC. 825. The officer making an investigation of a fire occurring in a city, village or township, shall forthwith notify the state fire marshal, and within one week of the

Report of
fires.

occurrence of the fire shall furnish him a written statement of all facts relating to its cause and origin, and such other information as is required by forms provided by the state fire marshal.

Penalty for
official neglect.

SEC. 826. An officer named in the last two preceding sections who neglects to comply with any requirement of this chapter, shall be fined not less than twenty-five dollars nor more than two hundred dollars.

Hearing on
cause of fire.

SEC. 827. If in his opinion further investigation is necessary, the state fire marshal, a deputy state fire marshal or an assistant state fire marshal, shall take or cause to be taken the testimony on oath of all persons supposed to be cognizant of any facts, or to have means of knowledge in relation to the matter concerning which an examination is required by law to be made, and cause such testimony to be reduced to writing.

Arrest of
person suspected.

SEC. 828. If the state fire marshal, or a deputy or assistant fire marshal, is of the opinion that there is evidence sufficient to charge a person with arson or a similar crime, he shall arrest him or cause him to be arrested and charged with such offense. He shall furnish the prosecuting attorney such evidence, with the names of witnesses, and a copy of material testimony taken in the case.

Report of
superintendent of insurance.

SEC. 829. When required by the superintendent of insurance, the state fire marshal shall report to him his proceedings, and the progress in all prosecutions for arson and similar crimes, and the result of all cases finally disposed of.

Power to
compel attendance of
witnesses.

SEC. 830. The state fire marshal, a deputy state fire marshal or an assistant fire marshal, may summon and compel the attendance of witnesses before him to testify in relation to any matter which by law is a subject of inquiry and investigation, and require the production of any book, paper or document he deems pertinent.

Power to
administer
oaths and
punish for
contempt.

SEC. 831. The state fire marshal, a deputy state fire marshal or an assistant fire marshal shall have authority to administer an oath to any person appearing as a witness before him. False swearing in a matter or proceeding shall be perjury and punished as such. A witness who refuses to be sworn or refuses to testify, or disobeys a lawful order of the state fire marshal, deputy state fire marshal, or an assistant fire marshal, or fails or refuses to produce a book, paper or document concerning a matter under examination,

or is guilty of contemptuous conduct after being summoned by such officer to appear before him to give testimony in relation to a matter or subject under investigation, may be summarily punished by such officer as for contempt, by fine not exceeding one hundred dollars, or be committed to the county jail until such person is willing to comply with the order.

SEC. 832. Investigation by or under the direction of the state fire marshal may in his discretion be private. He may exclude from the place where such investigation is held all persons other than those required to be present, and witnesses may be kept separate from each other and not allowed to communicate with each other until they have been examined.

Investigation
may be pri-
vate.

SEC. 833. In the performance of the duties imposed by the provisions of this chapter, the state fire marshal and each of his subordinates, at all times of day or night, may enter upon and examine any building or premises where a fire has occurred, and other buildings and premises adjoining or near thereto.

Examination
of buildings
in which fire
has occurred.

SEC. 834. The state fire marshal, his deputies, and subordinates, the chief of the fire department of each city or village where a fire department is established, the mayor of a city or village where no fire department exists, or the clerk of the township in territory without the limits of a city or village, at all reasonable hours may enter into all buildings and upon all premises within their jurisdiction for the purpose of examination.

Examination
of structures
or premises.

SEC. 835. If the state fire marshal, a deputy state fire marshal, or assistant fire marshal, or any officer mentioned in the preceding section, upon an examination or inspection finds a building or other structure which for want of proper repair, by reason of age, and dilapidated condition, defective or poorly installed electrical wiring and equipment, defective chimneys, *defective gas connections, defective heating apparatus*, or for any other cause or reason is especially liable to fire and which building or structure is so situated as to endanger other buildings or property, such officer shall order such building or buildings to be repaired, torn down, demolished, materials removed and all dangerous conditions remedied. If such officer finds in a building or upon any premises any combustible or explosive material, rubbish, rags, waste, oils, gasoline or in-

Order for
removal of
dangerous
building or
material.

flammable conditions of any kind, dangerous to the safety of such buildings or premises, buildings or property, he shall order such materials removed or conditions remedied. Such order shall be made against and served personally or by registered letter upon the owner, lessee, agent, or occupant of such building or premises, and thereupon such order shall be complied with by the owner, lessee, agent or occupant and within the time fixed in said order.

Appeal from
order of
state fire
marshal.

SEC. 836. If the owner, lessee, agent or occupant deems himself aggrieved by an order of an officer under the preceding section and desires a hearing he may complain or appeal in writing to the state fire marshal within three days from the service of the order and the state fire marshal shall at once investigate said complaint and he shall fix a time and place not less than five days nor more than ten days thereafter, when and where said complaint will be heard by the state fire marshal. The state fire marshal at said hearing may affirm, modify, revoke or vacate said order, and unless such order is revoked, or vacated by the state fire marshal it shall remain in force, and be complied with by such owner, lessee, agent or occupant and within the time fixed in said order or within such time as may be fixed by the state fire marshal at said hearing.

Appeal to
probate court.

SEC. 836-1. If a person is aggrieved by the final order of the state fire marshal as made at the hearing provided for in the preceding section, such person may within five days thereafter, appeal to the probate court of the county in which the property is situate, notifying the state fire marshal in writing of such appeal within three days thereafter, which notice shall be in writing and delivered personally to the state fire marshal or left at his principal office in the city of Columbus. The party so appealing shall within two days thereafter, file with the probate court in which said appeal is made a bond in an amount to be fixed by the court but in no case less than one hundred dollars (\$100.00) with at least sufficient sureties, to be approved by the court, conditioned to pay all the costs on the appeal in case the appellant failed to sustain the same or the appeal be dismissed for any cause. The probate court shall hear and determine said appeal within ten days from the date of the filing of the same and the state fire marshal shall make a complete transcript of the proceedings had before him and certify the same together with all the original papers filed in his office and transmit them to the probate

court at least three days prior to the date of hearing as fixed by the court. The decision of the probate court shall be final and in case the decision is against the appellant or for any cause the appeal be dismissed, judgment for costs shall be entered against the appellant.

SEC. 836-2. If any person fail to comply with an order of an officer under the last three preceding sections and within the time fixed, then such officer is empowered and authorized to cause such building or premises to be repaired, torn down, demolished, materials removed and all dangerous conditions remedied, as the case may be and at the expense of such person, and if such person within thirty days thereafter fail, neglect or refuse to repay said officer the expense thereby incurred by him, such officer shall certify said expenses, together with twenty-five per centum penalty thereon to the county auditor of the county in which said property is situate and said county auditor shall enter said expense on the tax duplicates of said county as a special charge against the real estate on which said building is or was situate and the same shall be collected as other taxes and when collected, shall together with the penalty thereon be refunded to such officer. Penalty.

SEC. 837. Any person or persons, being the owner, occupant, lessee or agent of buildings, or premises who willfully fails, neglects or refuses to comply with any order of any officer named in the last four preceding sections, shall be guilty of a misdemeanor and shall be fined not more than fifty dollars nor less than ten dollars for each day's neglect. Penalty.

SEC. 838. The state fire marshal shall keep in his office a record of all fires occurring in the state, the origin of such fires and all facts, statistics and circumstances relating thereto which have been determined by investigations under the provisions of this chapter. Except the testimony given upon an investigation, such record shall be open at all times to public inspection and such portions thereof as the superintendent of insurance deems necessary shall be transcribed and forwarded to him within fifteen days from the first of January each year. Record of
fires.

SEC. 839. Chiefs of fire departments and mayors of incorporated villages who do not receive compensation for their services, and clerks of organized townships who are required by the provisions of this chapter to report fires to the state fire marshal, shall receive fifty cents for each Compensation
for reporting
fires.

fire reported to his satisfaction, and fifteen cents per mile for each mile traveled to the place of the fire. At the close of each fiscal year, such allowance shall be paid by the state fire marshal from any funds provided for the use of his office.

Salaries of
state fire
marshal and
assistants.

SEC. 840. The state fire marshal shall receive an annual salary of three thousand dollars; the first deputy fire marshal, eighteen hundred dollars, and the second deputy fire marshal, fifteen hundred dollars. Such salaries, compensation of clerks and assistants and all other expenses of the department of the state first marshal necessary in the performance of the duties imposed upon him by law, shall not exceed in any year the amount paid into the state treasury for that year by fire insurance companies as provided in the next following section.

Taxation of
insurance
companies;
credit of
moneys re-
ceived.

SEC. 841. For the purpose of maintaining the department of state fire marshal and the payment of expenses incident thereto, each fire insurance company doing business in this state shall pay to the superintendent of insurance in the month of November each year, in addition to the taxes required by law to be paid by it, one-half of one per cent on the gross amount of premiums received by it from policies covering risks within this state during the preceding calendar year; after deducting return premiums and considerations received for re-insurances as shown by the next preceding annual statement, verified under oath as required under the provisions of section 9590 of the General Code. The superintendent of insurance shall pay the money so received into the state treasury to the credit of a special fund for the maintenance of the office of the state fire marshal. If any portion of such special fund remains unexpended at the end of the year, for which it was required to be paid, and the state fire marshal so certifies, it shall be transferred to the general revenue fund of the state.

Failure to
pay tax
ground for
revoking or
refusing
license; action
for recovery
of tax.

Upon failure or refusal to pay the tax, the superintendent of insurance may revoke or refuse to renew the license of said fire insurance company, and shall certify the fact of such failure or refusal to pay said tax to the attorney general, who shall thereupon begin an action against the company in the court of common pleas of the proper county, to recover the amount of the tax. If such company ceases to do business in this state, it shall thereupon make report to the superintendent of insurance and shall forth-

with pay to the superintendent of insurance all taxes due and to become due from it.

SEC. 842. The state fire marshal shall keep on file in his office an itemized statement of all expenses incurred by the department. He shall approve all vouchers issued therefor before they are submitted to the auditor of state for payment, and thereupon such vouchers shall be allowed and paid as other claims against the state.

Statement of expenses.

Section 1177-21.

Section 2. All officers, boards, commissions, institutions associations, or corporations that were heretofore by law required to make an annual or semi-annual report to the governor of the state, shall on the first day of July, 1915, or as soon thereafter as is practicable, make partial reports for the period covered between the date of the making of the last preceding annual or semi-annual report to the governor and June 30, 1915, in triplicate, to be filed in the manner prescribed by section 2264-1 of the General Code. This section shall cease to have any effect or operation on and after January 1, 1916.

Annual reports, when made and period covered.

The following sections of the General Code of Ohio define the crime of arson and other burnings, to-wit:

ARSON.

SEC. 12433. Whoever maliciously burns, or attempts to burn a dwelling house, kitchen, smoke house, shop, office, barn, stable, storehouse, warehouse, railroad coach or car, malt house, still house, mill, pottery or other building, the property of another person, or church, meeting house, court house, work-house, schoolhouse, jail or the Ohio penitentiary, or a shop, storehouse or building, within the enclosed walls thereof, or other public building, or ship or other water craft, or a toll bridge or a part thereof, erected across a river, wholly or partly within this state, or other bridge erected across any of the waters within this state, or sets fire to or attempts to set fire to anything in or near to such building, coach or car, water craft or bridge, with intent to burn it, if the value of such building, coach or car, water craft or bridge, burned, attempted or intended to be burned is fifty dollars or more, shall be imprisoned in the penitentiary not more than twenty years, or if the value is less than that sum be fined not more than two hundred dollars or imprisoned not more than thirty days, or both.

BURNING TO PREJUDICE INSURER.

SEC. 12434. Whoever maliciously burns a dwelling house, kitchen, smoke house, shop, office, barn, stable, storehouse, warehouse, still house, mill, pottery, or other building of the value of fifty dollars or more, or goods, wares, merchandise, or other chattels of the value of fifty dollars or more, being his own property and insured against loss or damage by fire, with intent to prejudice the insurer shall be imprisoned in the penitentiary not more than twenty years.

BURNING PERSONAL PROPERTY.

SEC. 12435. Whoever maliciously burns or attempts to burn a barrack or stack of hay, wheat, rye, oats, barley, flax, hemp, fodder or grain of any kind, or corn-chib or place wherein corn is deposited, or fence, board, plank, scantling, rail, tanbark or timber, the property of another, if the value of the property is thirty-five dollars or more, shall be imprisoned in the penitentiary not less than one year nor more than three years, or, if the value is less than that sum, be fined not less than five dollars nor more than one hundred dollars, or imprisoned not more than thirty days, or both.

MALICIOUSLY SETTING FIRE TO WOODS, ETC.

SEC. 12436. Whoever maliciously or negligently sets fire to woods, prairies or grounds, not his property, or maliciously permits fire to pass from his prairies or grounds to the injury or destruction of the property of any other person, shall be fined not more than one hundred dollars, or imprisoned not more than twenty days, or both.

MALICIOUS DESTRUCTION OF PROPERTY.

SEC. 12477. Whoever maliciously destroys or injures property not his own, if the value of the property destroyed, or the injury done is one hundred dollars or more, shall be imprisoned in the penitentiary not less than one year nor more than seven years, or, if the value is less than that sum, shall be fined not more than five hundred dollars or imprisoned not more than thirty days, or both.

Fortieth Annual Mine Report

ISSUED BY

The Industrial Commission of Ohio

Division of Mines

FOR THE

Year Ending December 31, 1914

VOL. II. 30 EX. D.

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INTRODUCTORY NOTE.

The report herewith compiled represents the inspection work and other activities coming under the jurisdiction of The Industrial Commission of Ohio, Division of Mines, for the calendar year January 1, 1914-December 31, 1914, and relates to the following subjects:—

The Coal Industry of Ohio,
Matters of Safety,
Mine Accidents,
Special Reports,
Mine Inspections,
Miscellaneous matters pertaining to the Coal Industry of Ohio.

The statistical report dealing with the coal tonnage, employees, wages, etc., for the year will be published by the Department of Investigation and Statistics.

During the latter part of the year 1913, The Industrial Commission of Ohio, owing to the increase in the number of fatal accidents occurring in the mines of the state, and realizing the necessity and importance of the state making some special effort to reduce these accidents, after consulting with the Governor, decided it would be wise to appoint a Safety Commissioner whose duty it would be to make a special investigation into the causes of mine accidents, and empowering him to put forth every effort, issue such instructions and formulate such rules and regulations as in his judgment would tend to reduce the number of accidents in and around the mines.

On December 31, 1913, the writer was selected as Safety Commissioner and at once began to investigate the causes of accidents reported to the Division of Mines; analyses of these accidents reported showed that the greater number was due to carelessness on the part of the mine management, and *carelessness* and *lack of discipline on part of the miner*; our first act was to publish an accident bulletin giving the cause of accident, and the precaution that should have been taken to avoid same. These accident bulletins were issued from time to time and brought good results.

On May 16, 1914, the Division of Mines was reorganized, and the Safety Commissioner assumed the duties of his own office, and the duties devolving upon the Chief Deputy, Division of Mines, and the title of

Chief Deputy and Safety Commissioner was conferred upon him. J. C. Davies, who at that time was the Chief Deputy of Mines, was made Assistant Chief Deputy of Mines.

A number of Bulletins and Orders requiring Safety Measures were issued from time to time. These are embodied in this report.

J. M. ROAN,

Chief Deputy and Safety Commissioner of Mines.

May 12, 1915.

PART I

Coal Review.
Special Reports.
Matters of Safety.
Mine Accidents.
Mine Inspections.
Miscellaneous.

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PART I

COAL INDUSTRY FOR THE YEAR 1914.

The Coal Industry in the United States for the year 1914, according to advance figures published will show a decrease of over 50,000,000 tons as compared with the year 1913. There were several factors which influenced this marked decrease in tonnage; a large portion of the year was marked by an industrial and financial depression; labor troubles and disputes were also responsible for the decrease in output in several of the coal-producing states. Ohio suffered a loss of over 18,000,000 tons; the states of Pennsylvania and Illinois, two large coal-producing states, also reported large decreases in tonnage. The State of West Virginia reported a large increase. The total number of tons of coal mined in the United States during the year 1914 is estimated at 507,000,000 tons as compared with 570,000,000 tons produced during the year 1913.

Prices.

The decrease in tonnage had a corresponding effect in the price of coal. At the beginning of the year 1914, prospects were bright for a profitable year in the coal business, but as the effect of the industrial and financial depression began to make itself felt, the price of coal began to decline. Consequently the latter part of the year witnessed prices altogether unsatisfactory to the producer.

Lake Shipments.

The season for shipping coal to the lakes was also a disappointment so far as the amount in tonnage was concerned, as it fell much below the tonnage reported as being shipped during the year 1913.

Ohio.

The general depression which was so manifest throughout the country at large, was felt in Ohio; especially was this true of the coal industry. To this and other local labor troubles was due the greatest loss in tonnage ever recorded since the coal tonnage of the state was first reported; it was also responsible for mines being idle for many months and for suffering amongst the miners involved in these labor troubles, which for a time threatened to become acute.

Wage Agreement.

The signing of a wage agreement between the miners and operators of the state which expired April 1st, 1914, was the main factor which influenced this condition in the coal industry for the year, and caused a demoralization which it will take some time to overcome and bring it to the state enjoyed at the close of the year 1913. In fact the close of the year 1914 found conditions in some portions of the state in practically the same position as when the mines closed down on April 1st.

Run of Mine Law.

The run of mine law passed February, 1914, and becoming effective in June of the same year, was responsible for this unsettled condition in the different coal districts of the state. The provisions of this law completely changed the system of weighing the coal and the method of paying for same. Under the old system of contract the miner was paid on the basis of the amount of *lump* coal produced; this system had been in existence for a number of years, but the miners of Ohio had from time to time for years made unsuccessful attempts to have laws enacted compelling operators to pay them for the total amount of coal mined. However, the state legislature, upon the recommendations of a Coal Mining Commission appointed by Governor Cox to investigate the methods of weighing and paying for coal in this and other states, made this system possible by passing a law providing that a miner or loader of coal in the state who under the terms of his employment was to be paid for mining or loading such coal on the basis of the ton or other weight should be paid for such mining or loading according to the total weight of all such coal.

New System of Mining.

The introduction of this new system of weighing the coal in the different coal districts of the state, as has been experienced in the introduction of many other new systems of operation, whether in coal mines or other industrial activities, brought with it a storm of opposition by the owners and operators of coal mines in the state. This new law not only called for a new basis on which the coal was to be paid for, but it also necessitated a new system of weighing the coal. The process of signing up wage contracts was, therefore, very slow and tedious, and resulted in a number of state conferences being held between the representatives of the operators' and miners' organizations during the month of July. These resulted in no definite or permanent basis on which a wage scale could be agreed. Arrangements were made to hold district meetings in the different coal districts of the state, and resulted in several of them signing agreements on the new Run of Mine basis, and the mines of

the Hocking Valley, Jackson and Guernsey County Districts began operations about August 1st.

However, the operators of the Eastern Ohio District failed to come to any satisfactory agreement with the miners of that locality, and the end of the year 1914 conditions remained the same as when the mines first suspended operations on April 1st. This is the largest coal-producing district in the state, and not only was the tonnage for the year materially reduced by the suspension in this district to the extent of 11,500,000 tons but 18,000 men were idle on account of this deplorable condition, causing much want and suffering; however, the citizens of the state, irrespective of the contentions of either side, responded liberally to the call for assistance and to the cause of humanity, and the situation was materially relieved, and innocent parties were cared for, but be it to the credit of the members of both sides of the controversy, each struggling and contending for a principle they deemed right and just, the strike did not reach a point of bitterness, and did not result in the destruction of life, and little or no property was interfered with.

Many conditions and circumstances entered into this controversy which will not be dwelt upon in this report as it was purely a matter of contract between the miners and operators, and as such was a question to be settled by them alone. This was finally accomplished in the month of May, 1915, and preparations were made to clean up and put in operation the mines which had been idle for so long a period. This terminated one of the longest struggles in the annals of the coal industry of Ohio, and its conclusion was heralded with deep satisfaction by all parties concerned. Too much cannot be said of the strong bond existing between capital and labor in this long drawn out contest; each side respected the contentions and claims of the other, and by patient adherence to this fact, was due its peaceful termination. The operators of this district also had the assurance that they would be given every assistance by the Mining Department in seeing that their mines were inspected by a corps of Inspectors which was put into this field for that purpose and to see that every precaution was taken for the safety of the men, who would resume their labors after so long a period of time, as more or less danger is encountered under such circumstances.

Mine Rescue Car.

In January, 1914, the Mine Rescue Car purchased by The Industrial Commission of Ohio for use in mine accidents, explosions, or any catastrophes that are liable to occur in and around the mines of the state was delivered, and the task of equipping it for such use was begun at once under the general supervision of J. C. Davies, Chief Deputy, who took a personal and special interest in the work, and as a result

the car is well equipped for all such purposes and shows careful and painstaking forethought, being equipped with a small hospital with surgical instruments and medical supplies as well as life-saving apparatus for use in mine rescue work.

The purchase and equipment of the car has been justified as it has already seen service in two mine fires, and was also stationed in Eastern Ohio for a period of three weeks after the contract was signed between the miners and operators ending the long suspension of the mines in that locality; this was deemed advisable owing to accidents, explosions or mine fires that are liable to occur after mines have been idle for so long a time, as wires and the general equipment of a mine becomes more or less seriously deranged.

The first car attendant named to take charge of the Rescue Car was A. J. McMillen, New Philadelphia, Tuscarawas County, Ohio, who was appointed to that position on April 23, 1914.

Time Worked.

Owing to the long suspension in all of the large coal-producing counties of the state, and the lack of demand for coal, work was very scarce; in the Hocking Field the mines worked about half time; in Eastern Ohio the mines worked about one-fourth time. The mines of Tuscarawas and Coshocton Counties worked about the same length of time.

Inspections.

Two thousand three hundred and fifty inspections were made by the twelve Deputy Mine Inspectors, in addition to the inspections, joint conferences and investigations made by the Chief and Assistant Deputies. Three hundred days were spent by the Deputy Inspectors and Assistant Chief Deputy, in the oil and gas well fields looking up delinquent oil and gas well companies who were failing to carry out the provisions of the law relating to securing a permit to drill wells for oil and gas penetrating the coal producing counties of the state and witnessing the abandonment of oil and gas wells to see that they were plugged and sealed according to law.

Oil and Gas Wells.

The matter of oil and gas wells penetrating the workings of mines, as well as territory in the coal-producing counties of the state which will be developed in the future became so serious during the latter part of the year 1914, that it was deemed necessary and advisable to employ the services of an oil well inspector whose sole duties it would be to make special investigations of wells intended to be drilled which would penetrate the workings of any coal mine, as well as to witness the sealing and abandonment of wells that were to be abandoned. Miles Davidson, was appointed to assume the duties of this position August 1, 1914.

and at once took up the work of special investigations, which resulted in much good, and many oil companies were given special instructions in regard to the provisions of the law relating to obtaining permits to drill oil and gas wells, and the necessity of filing maps of locations of proposed wells.

Permits Issued, Wells Abandoned and Maps of Oil and Gas Wells Filed.

Seven hundred and seven (707) permits to drill wells for oil and gas wells were issued by this Department during the year; nine hundred and eighty (980) maps of oil and gas wells were filed, and two hundred and sixty (260) oil and gas wells were reported abandoned.

The greatest number of permits issued to drill oil or gas wells was issued to Wayne County, 108 in all; Hocking County, 95; Perry County, 71; Monroe County, 70; Columbiana County, 64; Medina County, 50; Belmont County, 49 and Noble County, 28.

Perry and Hocking Counties led in the number of maps filed, the former filing 145 and the latter 132. Monroe County reported 51 abandoned wells; Jefferson, 38; Belmont, 33 and Perry, 25.

Accidents.

During the year 61 fatal accidents were reported to the Department of Mines, as compared with 162 for the year 1913; however, the long suspension during the year was accountable for the large decrease in the number of fatal accidents. Estimating the tonnage to be 18,500,000 tons, there was mined to the life lost 298,387 tons of coal, as compared with 223,984 tons to the life lost for the year 1913, when 162 fatalities were reported; one life was lost for every 299 persons employed during 1913, and 813 for the year 1914.

Mining Legislation.

During the year the Run of Mine Law was passed regulating the paying for coal by weight; section 976-1-2 and 3 of the mining code was amended regulating the method of mining coal known as "Shooting Coal Off the Solid," and provided for a permit to be issued in all such cases based upon questions made out relative to the seam of coal; why it was necessary to so mine the coal; the amount of explosives used, etc.; this petition requesting permission to shoot coal off the solid was to be signed by the Mine Management and a majority of the miners employed at the mine desiring to mine the coal in this manner.

Section 934 of the mining laws was amended so as to provide for the furnishing of first aid equipment at mines at which ten or more persons were employed; for every thirty-five so employed a properly constructed stretcher, woolen blanket, a water proof blanket, a sufficient

quantity of bandages and other linen and all other requisites necessary to render first aid to the injured are to be provided; at mines known to generate fire damp so as to be detected by a safety lamp, a sufficient quantity of olive and linseed oil is to be kept for use in emergency.

Prosecutions.

Twenty-four prosecutions for violations of the mining laws were reported to the Department during the year 1914, three of which were brought at the instance of the Mining Department, and twenty-one by coal companies. A detailed report of these violations will be found in another portion of this report.

Conclusion.

The Industrial Commission of Ohio has jurisdiction over a number of departments of state, of which the Division of Mines is one; the powers of this Commission are sweeping in their effect. This Commission has authority to enter any place of employment to collect statistics, and to examine provisions made for the health, safety and welfare of the employes therein; to enforce all the laws relating to the several departments under its control. It has power also to promote voluntary arbitration and conciliation between the employer and employed; to conduct free employment agencies; to license persons who desire to act as steam engineers, and operators of steam boilers, and to censor moving picture films. With such power, which is almost unlimited, great and lasting benefits should result to the state of Ohio.

**COAL PRODUCTION IN OHIO FOR THE YEAR ENDING DECEMBER
31, 1914, CLASSIFIED AS PICK AND MACHINE MINED, BY
COUNTIES.**

Note—The statistical tables appearing in this report have been prepared by the Department of Investigation and Statistics, published in Report No. 19, entitled "Statistics of Mines and Quarries in Ohio, 1914."

County.	Tons.			Per cent.	
	Pick Mined.	Machine Mined.	Total.	Pick Mined.	Machine Mined.
Athens	91,411	3,323,646	3,415,057	2.7	97.3
Belmont	74,688	2,549,335	2,624,023	2.8	97.2
Carroll	88,386	148,323	a 241,186	b 36.6	b 61.5
Columbiana	119,178	278,930	398,108	29.9	70.1
Coshocton	146,428	40,189	186,617	78.5	21.5
Gallia	14,886	.....	14,886	100.0	.....
Guernsey	25,651	2,945,164	2,970,815	.9	99.1
Harrison	27,655	175,830	203,485	13.6	86.4
Hocking	110,409	1,081,821	1,192,230	9.3	90.7
Holmes	15,883	.....	15,883	100.0	.....
Jackson	257,662	301,670	559,332	46.1	53.9
Jefferson	188,416	1,742,192	c 2,067,577	d 9.1	d 84.3
Lawrence	162,709	.....	162,709	100.0	.....
Mahoning	21,855	4,200	26,055	83.9	16.1
Medina	10,674	.....	10,674	100.0	.....
Meigs	40,410	526,800	567,210	7.1	92.9
Monroe	803	.....	803	100.0	.....
Morgan .....	.....	194,743	194,743	.....	100.0
Muskingum	84,916	286,357	371,273	22.9	77.1
Noble	16,493	490,517	507,010	3.3	96.7
Perry	119,636	1,229,687	1,349,323	8.9	91.1
Portage	29,097	25,472	54,569	53.3	46.7
Scioto	4,170	.....	4,170	100.	.....
Stark	368,800	100,588	469,388	78.6	21.4
Summit	58,287	.....	58,287	100.0	.....
Trumbull	1,113	.....	1,113	100.0	.....
Tuscarawas	448,158	458,301	906,459	49.4	50.6
Vinton	11,917	60,515	72,432	16.5	83.5
Washington	615	.....	615	100.0	.....
Wayne	46,102	44,273	90,375	51.0	49.0
State	2,586,408	16,008,553	e 18,736,407	f 13.8	f 85.4

a Including 4,477 tons produced by stripping.

b One and nine-tenths per cent produced by stripping.

c Including 136,969 tons produced by stripping.

d Six and six-tenths per cent produced by stripping.

e Including 141,446 tons produced by stripping.

f Eight-tenths per cent produced by stripping.

COAL PRODUCTION IN OHIO, 1914 COMPARED WITH 1913.

BY COUNTIES.

	Tons Produced.		Gain.		Loss.	
	1913.	1914.	Tons.	Per Cent.	Per Cent.	Tons.
Athens	5,239,631	3,415,057	.....	.....	1,824,574	34.8
Belmont	10,454,795	2,624,023	.....	.....	7,830,772	74.9
Carroll	369,437	241,186	.....	.....	128,251	34.7
Columbiana	565,254	398,108	.....	.....	167,146	29.6
Coshocton	370,893	186,617	.....	.....	184,276	49.7
Gallia	20,561	14,886	.....	.....	5,675	27.6
Guernsey	4,324,682	2,970,815	.....	.....	1,353,867	31.3
Harrison	752,600	203,485	.....	.....	549,115	73.0
Hocking	1,587,163	1,192,230	.....	.....	394,933	24.9
Holmes	9,998	15,883	5,885	58.9	.....	.....
Jackson	596,497	559,332	.....	.....	37,165	6.2
Jefferson	5,095,024	2,067,577	.....	.....	3,027,447	59.4
Lawrence	195,389	162,709	.....	.....	32,680	16.7
Mahoning	27,457	26,055	.....	.....	1,402	5.1
Medina	9,990	10,674	684	6.8	.....	.....
Meigs	659,019	567,210	.....	.....	91,809	13.9
Monroe .....	.....	803	803	.....	.....	.....
Morgan	281,445	194,743	.....	.....	86,702	30.8
Muskingum	495,595	371,273	.....	.....	124,322	25.1
Noble	784,555	507,010	.....	.....	277,545	35.4
Perry	2,217,816	1,349,323	.....	.....	868,493	39.2
Portage	84,289	54,569	.....	.....	29,720	35.3
Scioto	5,867	4,170	.....	.....	1,697	28.9
Stark	453,772	469,388	15,616	3.4	.....	.....
Summit	82,331	58,287	.....	.....	24,044	29.2
Trumbull	2,185	1,113	.....	.....	1,072	49.1
Tuscarawas	1,387,026	906,459	.....	.....	480,567	34.6
Vinton	118,007	72,432	.....	.....	45,575	38.6
Washington	615	615	.....	.....	.....	.....
Wayne	93,575	90,375	.....	.....	3,200	3.4
State	36,285,468	18,736,407	.....	.....	.....	.....
Net loss—	.....	.....	.....	.....	.....	.....
Tons .....	.....	.....	.....	.....	17,549,061	.....
Per cent. ....	.....	.....	.....	.....	.....	48.4

ANNUAL COAL PRODUCTION IN OHIO, CLASSIFIED AS PICK MINED
AND MACHINE MINED. 1872 TO 1914, INCLUSIVE.

Year.	Total.	Machine Mined.	Pick Mined.	Per Cent. of Total Production.	
				Pick Mined.	Machine Mined.
	a	a	a	a	a
1872			5,315,294		
1873			4,550,028		
1874			3,267,585		
1875			4,864,259		
1876			3,500,000		
1877			5,250,000		
1878			5,500,000		
1879			6,000,000		
1880			7,000,000		
1881			8,225,000		
1882			9,450,000		
1883			8,229,429		
1884			7,650,062		
1885			7,816,179		
1886			8,435,211		
1887			10,301,708		
1888			10,910,946		
1889	10,007,385	90,000	10,907,385	91.7	8.3
1890	10,610,360	1,148,499	11,788,859	90.3	9.7
1891	11,396,106	1,654,081	13,050,187	87.3	12.7
1892	12,360,828	2,239,080	14,599,908	84.7	15.3
1893	12,275,023	2,553,074	14,828,097	82.8	17.2
1894	9,354,753	2,555,466	11,910,219	78.5	21.5
1895	10,563,423	3,120,456	13,683,879	77.2	22.8
1896	9,544,259	3,368,349	12,912,608	73.9	26.1
1897	8,342,698	4,106,124	12,448,822	67.0	33.0
1898	8,805,557	5,252,598	14,058,155	62.6	37.4
1899	9,167,874	6,741,060	15,908,934	57.6	42.4
1900	9,966,872	9,457,777	19,426,649	51.3	48.7
1901	9,831,476	10,489,814	20,321,290	48.4	51.6
1902	10,489,619	13,439,648	23,929,267	43.8	56.2
1902	10,012,335	14,560,931	24,573,266	40.7	59.3
1904	8,037,360	16,546,455	24,583,815	32.7	67.3
1905	6,825,125	19,009,532	25,834,657	26.4	73.6
1906	6,500,263	20,713,232	27,213,495	23.9	76.1
1907	6,511,773	25,854,176	32,365,949	20.1	79.9
1908	4,676,869	21,610,931	26,287,800	17.8	82.2
1909	4,608,402	23,146,630	27,755,032	16.6	83.4
1910	4,341,483	30,083,468	34,424,951	12.6	87.4
1911	3,467,119	26,874,920	30,342,039	11.4	88.6
1912	3,769,536	30,674,755	34,444,291	10.9	89.1
1913	3,691,923	32,593,545	36,285,468	10.2	89.8
1914	2,586,408	16,008,553	18,594,961	13.8	86.2

a Coal was first reported to the Bureau of Mines as pick and machine mined in 1889. Prior to that date practically the entire product was pick mined.

b Including 141,446 tons produced by stripping.

c Eight-tenths per cent produced by stripping.

AVERAGE NUMBER OF EMPLOYEES IN PICK AND MACHINE MINES IN OHIO. 1914 COMPARED WITH 1913.

BY COUNTIES.

County.	Pick Mines.		Machine Mines.		Total.		Gain in Total Employees.		Loss in Total Employees.	
	1913.	1914.	1913.	1914.	1913.	1914.	Number.	Per cent.	Number.	Per cent.
Athens	198	81	7,336	6,920	7,534	7,001			533	7.1
Belmont	253	84	11,130	11,002	11,383	11,086			297	2.6
Carroll	196	139	387	340	583	479			104	17.8
Columbiana	310	449	589	697	849	1,145				
Coshocton	541	527	125	230	666	757	206	34.9		
Gallia	100	78			100	78	91	13.7		
Guernsey	69	54	4,686	4,337	4,755	4,391			364	7.7
Harrison	126	61	705	751	841	812			29	3.4
Hocking	206	114	2,082	2,047	2,287	2,161			126	5.5
Holmes	35	55			35	55				
Jackson	1,027	804	863	999	1,890	1,802	30	57.1	88	4.7
Jefferson	402	301	5,640	5,936	6,242	6,127			115	1.8
Lawrence	497	408			497	406			99	17.9
Mahoning	105	59		25	105	84			21	20.0
Medina	23	26			23	26	3	13.0		
Meigs	134	71	1,150	1,389	1,294	1,460	176	13.7		
Monroe		5				5		(a)		
Morgan			458	363	458	363			95	20.7
Muskingum	334	198	405	552	739	710			29	3.9
Noble	80	42	756	704	836	746			90	10.8
Perry	294	98	3,101	3,277	3,395	3,370			25	.7
Portage	53		126	297	209	297	88	42.1		
Scioto	16	18			16	18	2	12.5		
Stark	512	613	197	389	1,000	1,002			7	.7
Summit	129	121	76		205	121			84	41.0
Trumbull	9	2			9	2			7	(a)
Tuscarawas	1,028	707	817	1,260	1,845	1,967	122	6.6		
Vinton	108	13	220	169	328	182			146	44.5
Washington	4	2			4	2			2	(a)
Wayne	175	60	118	248	293	308	15	5.1		
State	7,303	5,143	41,117	41,822	48,420	46,965				

Net loss — 1,455 or 3.0 per cent.

(a) Not computed owing to small number of employees.

**AVERAGE NUMBER OF DAYS WORKED IN COAL MINES OF OHIO BY
PICK MINERS AND LOADERS, (INCLUDING DRILLERS AND
SHOOTERS), 1914 COMPARED WITH 1913.**

BY COUNTIES.

[Pick miners employed in machine mines are not included in this table.]

County.	Average Number of Days Worked by			
	Pick Miners—in Pick Mines Only.		Loaders—in Ma- chine Mines Only. (Including Drill- ers and Shoot- ers).	
	1913	1914	1913	1914
Athens	163	132	187	126
Belmont	210	176	224	52
Carroll	226	239	231	138
Columbiana	256	120	218	136
Coshocton	211	115	214	74
Gallia	100	169	.....	.....
Guernsey	193	166	221	151
Harrison	204	173	220	53
Hocking	207	222	184	138
Holmes	190	181	.....	.....
Jackson	115	119	116	128
Jefferson	197	215	222	76
Lawrence	198	185	.....	.....
Mahoning	186	208	.....	200
Medina	215	174	.....	.....
Meigs	124	127	191	145
Monroe .....	.....	150	.....	.....
Morgan .....	.....	.....	183	127
Muskingum	225	182	208	161
Noble	116	179	211	146
Perry	205	157	178	114
Portage	183	.....	191	120
Scioto	270	175	.....	.....
Stark	196	184	145	147
Summit	186	123	144	.....
Trumbull	199	208	.....	.....
Tuscarawas	221	128	225	127
Vinton	134	169	142	148
Washington	113	95	.....	.....
Wayne	143	66	137	137
State.....	189	150	206	150

AVERAGE NUMBER AND PER CENT OF EMPLOYEES REPORTED ANNUALLY IN PICK AND MACHINE MINES OF OHIO.
1904 TO 1914 INCLUSIVE.

Year.	Average Number of Employees.			Per Cent of Total Employees.	
	In pick mines.	In machine mines.	Total.	In pick mines.	In machine mines.
1904	17,723	28,111	45,834	38.7	61.3
1905	14,138	30,055	44,193	32.0	68.0
1906	13,128	33,373	46,501	28.2	71.8
1907	12,927	34,949	47,876	27.0	73.0
1908	11,938	38,330	50,267	23.7	76.3
1909	10,334	36,685	47,019	22.0	78.0
1910	9,607	39,223	48,830	19.7	80.3
1911	7,744	40,663	48,407	16.0	84.0
1912	7,341	39,393	47,234	16.6	83.4
1913	7,303	41,117	48,420	15.1	84.9
1914	5,143	41,822	46,965	11.0	89.0

NUMBER OF MEN EMPLOYED AND TONS OF COAL MINED PER FATAL ACCIDENT AND PER ACCIDENT RESULTING IN A DISABILITY OF MORE THAN THREE WEEKS ^a REPORTED IN COAL MINES OF OHIO, FOR THE YEAR ENDING DECEMBER 31, 1914, BY COUNTIES.

The number of fatal accidents in this table is based upon fatal accidents as reported to the Inspector of Mines during 1914, and differs from the number used in tables in Report No. 19, Department of Investigation and Statistics entitled, "Statistics of Mines and Quarries in Ohio, 1914," based upon awards under the Workmen's Compensation Act, and tabulated by the Department of Investigation and Statistics. The difference is due to the fact that the Inspector of Mines receives reports of fatal accidents immediately after they occur, while the Department of Investigation and Statistics tabulates accidents only after the claims have been heard and allowed. The Inspector of Mines received the reports of eight fatal accidents which are excluded from the tables based on awards. Four were not passed upon and awards made until 1915; one is still pending before the Industrial Commission; two occurred in mines employing less than five men, and hence the Workmen's Compensation Act did not apply to them, while one was disallowed because the deceased did not receive his injury while in the employ of the owners of the mine. On the other hand, the tables based on awards include one death which occurred during 1913, and appeared in "Statistics of Mines and Quarries" for that year, but the award for which was not made until 1914.

There is a difference of seven, therefore, between the number of deaths included in the tables based on returns to the Inspector of Mines and data tabulated by the Department of Investigation and Statistics, from claims for fatal cases heard and allowed by the Industrial Commission during 1914.

County.	Total Number of Men Employed.	Total Number of Tons Mined.	Fatal Accidents.			Total Accidents. Accidents Resulting in a Disability of more than three weeks. (a)		
			Number.	Number of men employed per life lost.	Tons of coal mined per life lost.	Number.	Number of men employed per accident.	Tons of coal mined per accident.
Athens	7,001	3,415,057	2	3,500	1,707,528	114	61	29,931
Belmont	11,086	2,624,023	17	652	154,354	193	57	13,596
Carroll	479	241,186	.....	.....	.....	3	159	80,395
Columbiana	1,145	398,108	.....	.....	.....	29	39	13,728
Coshocton	757	186,617	.....	.....	.....	14	54	13,330
Gallia	78	14,886	.....	.....	.....	.....	.....	.....
Guernsey	4,391	2,970,815	6	732	495,136	111	40	8,818
Harrison	812	203,485	1	812	203,485	6	135	33,914
Hocking	2,161	1,192,230	1	2,161	1,192,230	36	60	33,117
Holmes	55	15,883	.....	.....	.....	.....	.....	.....
Jackson	1,802	559,332	6	300	93,222	36	50	15,537
Jefferson	6,127	2,067,577	8	765	258,447	113	54	18,297
Lawrence	408	162,709	.....	.....	.....	7	58	23,244
Mahoning	84	26,055	.....	.....	.....	2	42	13,027
Medina	26	10,674	.....	.....	.....	.....	.....	.....
Meigs	1,460	567,210	5	292	113,442	648	30	11,775
Monroe	5	803	.....	.....	.....	.....	.....	.....
Morgan	363	194,743	.....	.....	.....	6	61	32,457
Muskingum	710	371,273	.....	.....	.....	30	24	12,376
Noble	746	507,010	.....	.....	.....	17	44	29,824
Perry	3,370	1,349,323	5	674	269,864	56	60	24,095
Portage	297	54,569	1	297	54,569	8	37	6,821
Scioto	18	4,170	.....	.....	.....	.....	.....	.....
Stark	1,002	469,388	4	225	117,347	20	50	23,469
Summit	121	58,287	.....	.....	.....	3	40	19,429
Trumbull	2	1,113	.....	.....	.....	.....	.....	.....
Tuscarawas	1,967	906,459	1	1,967	906,459	47	42	19,286
Vinton	182	72,432	1	182	72,432	5	36	14,486
Washington	2	615	.....	.....	.....	.....	.....	.....
Wayne	308	90,375	.....	.....	.....	.....	.....	.....
Total	46,965	18,736,407	58	810	323,042	6904	52	120,726

^a Accidents of this class were described as "serious accidents" in former reports of the Bureau of Mines.

^b Includes one permanent total disability.

NUMBER OF MEN EMPLOYED AND TONS OF COAL MINED PER FATAL ACCIDENT AND PER ACCIDENT RESULTING IN A DISABILITY OF MORE THAN THREE WEEKS, ^a REPORTED IN COAL MINES OF OHIO, FOR EACH YEAR FROM 1884 TO 1914 INCLUSIVE.

[The figures for "accidents resulting in a disability of more than three weeks" were reported for 1913 and previous years to the Bureau of Mines by the coal mine operators. The figures for 1914 are based on accident claims for which awards were made by the Industrial Commission under the Workmen's Compensation Act.]

Year.	Total Number of Men Employed.	Tons Mined.	Fatal Accidents.			Accidents Resulting in a Disability of More Than Three Weeks. (a)		
			Number.	Number of Men Employed per Life Lost.	Tons of Coal Mined per Life Lost.	Number.	Number of Men Employed per Accident.	Tons of Coal Mined per Accident.
1884	20,101	7,660,062	26	773	294,233	40	503	191,252
1885	19,704	7,816,179	32	616	244,256	51	386	153,258
1886	20,437	8,435,211	43	475	196,168	62	330	136,052
1887	22,237	10,301,708	36	618	286,159	75	296	137,856
1888	21,801	10,910,946	29	752	376,240	78	280	139,884
1889	23,296	10,907,385	33	706	330,527	52	448	200,757
1890	22,102	11,788,859	42	528	280,687	52	427	225,709
1891	23,997	13,060,187	44	545	296,596	66	364	197,730
1892	26,972	14,599,908	42	642	347,617	98	290	156,988
1893	28,310	14,828,097	34	847	436,121	124	232	119,581
1894	31,483	11,010,219	45	700	264,672	116	271	102,674
1895	28,998	13,683,879	52	558	263,152	152	191	90,026
1896	28,446	12,912,608	41	694	314,942	156	179	81,211
1897	28,785	12,448,822	40	720	311,221	142	203	87,666
1898	28,365	14,068,155	56	510	255,003	155	183	90,097
1899	28,028	15,908,934	59	475	269,643	204	137	77,965
1900	31,702	19,426,649	68	466	285,636	207	153	93,849
1901	33,505	20,321,290	72	465	282,240	276	121	73,628
1902	37,421	23,929,267	81	462	295,423	298	126	80,300
1903	41,396	24,573,266	114	363	215,555	324	128	75,843
1904	45,834	24,583,815	118	388	206,337	316	145	77,797
1905	44,193	25,834,657	114	388	226,620	372	119	69,448
1906	46,501	27,213,436	127	366	214,279	354	121	70,866
1907	47,876	32,365,949	153	313	211,542	493	97	66,661
1908	50,267	26,287,800	112	449	234,712	426	118	61,706
1909	47,019	27,755,032	115	409	241,348	467	101	59,433
1910	48,830	34,424,961	161	303	213,820	471	104	73,089
1911	48,407	30,342,039	109	444	278,367	375	129	80,912
1912	47,234	34,444,291	136	347	253,267	396	120	87,201
1913 ^b	48,420	36,285,468	165	293	219,912	530	91	68,463
1914	46,965	18,736,407	58	810	323,042	c904	52	20,736

^a Accidents of this class were described as "serious accidents" in former reports of the Bureau of Mines.

^b Three deaths occurred in Guernsey County during 1914, which were the results of accidents occurring in 1913, but which were not included in the fatal accidents as reported for that year. These three deaths have been added to the total for 1913 thus raising the number of fatal accidents from 162 as published in Report No. 3 Department of Investigation and Statistics, "Statistics of Mines and Quarries in Ohio, 1913," to 165, and the number of employees and number of tons of coal mined per fatal accident have been revised accordingly.

^c Includes one permanent total.

SPECIAL REPORTS

Explosion at Elizabeth Mine, Jefferson County, Ohio.

Removing Body Gas, Sunday Creek 252 Mine, Athens County.

**Report on Condition of West Pittsburgh No. One Mine, Jefferson
County.**

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EXPLOSION AT ELIZABETH MINE, JEFFERSON COUNTY, O.

AMSTERDAM, O., June 23, 1914.

J. M. ROAN, *Chief Deputy and Safety Commissioner of Mines, Columbus, Ohio.*

DEAR SIR: — We have today made an examination of the Elizabeth mine, at Wolf Run, Jefferson county, operated by the Wolf Run Mining Co., Cleveland, O., to determine the cause and extent of an explosion of firedamp which occurred on June 14, 1914, and in connection therewith wish to report as follows:

The fan, which is located at the top of a two-compartment shaft and operated as a blower, had been shut down for sixteen days. During this time the mine filled with firedamp, the volume of firedamp becoming so great that on June 14 it began to drift up the shaft, where a number of men were engaged in making repairs or alterations to the fan. One of these men carried an open light into the fan house, igniting the gas. As the flame followed the column of firedamp down the shaft the men ran from the fan house, escaping from the path of the explosion before its full force was manifested at the surface. Fortunately, all of them escaped serious injury but two of them were slightly burned. Flame issued from this shaft in great volume and with considerable violence, igniting a pile of mine posts about thirty feet from the shaft. The fan house is of fireproof construction and aside from a slight displacement of the fan, suffered no damage.

The greatest damage occurred in the west side of the mine. In this section a large number of stoppings in both the live and abandoned workings were destroyed, and doors, tracks, timbering and wiring displaced. The force of the explosion was manifested in the innermost workings, mine cars near the head of the workings being badly damaged. There were also some evidences of flame in some of the workings, but, probably owing to a deficient supply of air, no fires resulted. This deficiency of air also probably prevented the explosion from being much more violent and destructive. Management stated that on the day following the explosion while the fan was being operated at partial capacity large volumes of fire damp were exhausted from the mine. This was no doubt in the mine at the time of the explosion but lacked the air to support its combustion. At the time of our examination the ventilation had been but partially restored by temporary stoppings, and inexplosive mixtures of firedamp were noted at various places. On the north side

of the mine the damage was not nearly so great but some stoppings were destroyed. A portion of the partition between the two compartments of the air shaft was also destroyed.

Firedamp is generated freely in this mine, the abandoned workings being particularly troublesome in this regard. The caving of rooms in the worked out sections exposes a strong gas-bearing seam of coal above the seam being worked and the gas liberated from this seam is a constant source of danger. Owing to the frequent caving in these places the maintenance of satisfactory ventilation in the abandoned workings is very difficult. It is impossible to explore some of the abandoned workings and there is no assurance that they are being ventilated.

In connection with the ventilation of this mine there are two features of which we strongly disapprove. They are the making of the abandoned workings a portion of the intake; and, using the haulage road for a return. We recommend that an order be given the operating company to reverse the air currents, making the main shaft the intake; to use the return current to ventilate abandoned workings; and, to seal abandoned workings not readily accessible, with substantial masonry stoppings, inserting pipes with valves in some of the stoppings so that observations may be made from time to time, and to drill holes from the surface to the sealed portions to permit the escape of gases generated in these abandoned places.

Very truly yours,

R. S. WHEATLEY,
Deputy Inspector 12th District.
L. D. DEVORE,
Deputy Inspector 10th District.
H. GAFFNEY,
Deputy Inspector 9th District

**REMOVING A BODY OF GAS AT SUNDAY CREEK NO. 252
MINE, ATHENS COUNTY, OHIO.**

GLOUSTER, OHIO, October 15, 1914.

HON. J. M. ROAN, *Chief Deputy and Safety Commissioner,*
Division of Mines, Columbus, Ohio.

DEAR SIR: We herewith submit to you our report of the work entailed in the removal of a large body of standing gas in Sunday Creek Mine No. 252, having been called in company with Assistant Chief Deputy J. C. Davies to supervise and assist in this work.

This body of gas was located in 7th and 8th west entries which had been sealed up for a period of eleven years. The 22nd east entry in

mine No. 266 owned by the Sunday Creek Co., broke into the old works of mine No. 252 caused by a drill hole. The miners employed at Sunday Creek mines Nos. 256, 266 and 267 refused to work until this body of gas was removed. It required three shifts of men from October 15th to October 25th to make an opening from No. 32 room on the 22nd east entry to the head of the 8th west entry in mine No. 252; this second opening was completed on the night of October 24th; there were between three and four acres of standing gas; the ventilation was turned into this body of gas on the night of October 24th, and on October 25th, in company with company officials, two fire bosses, and the Mine Committee of Mine No. 266, we made a thorough examination and inspection of the 7th and 8th west entries in Mine No. 252, and found the mine clear of any explosive gas, and it resumed operation on October 26, 1914.

Respectfully submitted,

ANDW. GINNAN, *Inspector Third District*,
J. C. DAVIES, *Asst Chief Deputy Inspector*.

REPORT OF THE WEST PITTSBURGH NO. 1 MINE, JEFFERSON COUNTY, OHIO.

The West Pittsburgh No. 1, formerly called the Rice mine, operated by the Ohio & Penna. Coal Co., near Bergholz, Jefferson county, has for several years been a source of apprehension to those employed in the mine, as well as expense to the company by reason of some of the workings having been driven under a creek which flows over this territory.

The surface overlying this part of the mine is only 30 to 40 feet thick, and of soft material. In the early part of the year 1907 a cave-in occurred near the creek, permitting the overflow from the creek to enter the mine. This was followed by another cave-in in the bed of the creek, necessitating changing the course of the stream, filling the hole left by the cave, the erection of dams and bulkheads inside of the mine and the construction of solid cribs to support the roof. At that time the State Mining Department recommended that an additional opening be made on high ground in that locality of the mine, and an order was given prohibiting anyone from entering or remaining in the mine during times of high water. This order necessitated, during the rainy season, the employment of two persons, one inside and one outside of the mine, to notify those employed underground when the water in the creek had reached a certain level. As a result of these precautions the mine has lost much time.

During the year 1913 an additional opening was made near the head of the workings in the south section of the mine, and while it provided an escapement way for those employed in that section it was unsatisfactory as an escapement way to those employed in the north section on account of the long distance from the north workings.

On December 29, 1914, Chief Deputy J. M. Roan and Deputy Inspectors Hugh Gaffney and R. S. Wheatley in company with officials of the operating company and representatives of the employes began a further investigation of these conditions. This investigation was delayed on account of the sudden illness of Chief Deputy J. M. Roan. Upon recovering he gave orders that a shaft be sunk in the northern part of the mine to be used for an escapement way, which was completed early in the spring of the year 1915.

December 29, 1914.

Respectfully submitted,

R. S. WHEATLEY, *Inspector 12th District.*

MINE FIRES

Report of Mine Fires which occurred during the year are reported as follows:

Superior No. 19 Mine, Jackson County.

Sunday Creek No. 301 Mine, Perry County.

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MINE FIRES.

Superior No. 9 Mine Fire.

On March 1, 1914, The Industrial Commission of Ohio purchased a Mine Rescue Car for use by the Department of Inspection, Division of Mines, in mine rescue work and for use in any emergency met with at mines such as mine fires, explosions, or other mine catastrophes. This Mine Rescue Car has been fully equipped with rescue and resuscitating apparatus, and a small hospital fully equipped with first aid out-fits and surgical instruments. Hospital equipment on Mine Rescue Cars is a *new feature*, and will prove of great benefit in cases of emergency.

August 12th, saw the Buckeye Mine Rescue Car on its initial trip, having received a call that the Superior No. 9 Mine, located near Wellston, Jackson County, Ohio, and operated by The Superior Colliery Co., Detroit, Michigan, was on fire the tippie having been destroyed, and the fire extending to the timbers and coal on the bottom on the north side of the mine.

The fire occurred on August 11th, and the fire Department at Wellston was called upon to assist in extinguishing the fire. The Department responded and did excellent work. However, when the fire extended to the bottom, and there was fear that it would be difficult to control, the State Rescue Car was called and responded, arriving at the mine on the morning of August 12th, in charge of J. M. Roan, Chief Deputy and Safety Commissioner, who, upon arrival, entered the mine in company with A. J. Lafferty, superintendent, by way of the slope or man-way, and succeeded in reaching the fire.

After consultation it was decided to take the hose down the slope and up to the fire; from this position a stream of water was thrown on the fire for three hours bringing it under control. A force of men was then set to work to timber the run-a-round and make it safe in case it should be necessary to carry the hose on the south side of the mine.

A number of the Deputy Mine Inspectors assisted in this work. On August 13th, it was discovered that the coal was on fire on the southwest side of this shaft, and it was extinguished by water thrown from the north side.

August 14th, another examination of this mine was made and no fire found. A. J. Lafferty, Superintendent, U. S. Morris, General Superintendent, Mr. Samuels, mine foreman for the company, and other employes of the mine rendered valuable service in fighting the fire.

Sunday Creek No. 301 Mine Fire.

August 16, 1914, the mine rescue car was again called to assist the mine management of the Sunday Creek Co., Columbus, O., in re-opening their No. 301 Mine, located at Congo, Perry County, Ohio. This mine experienced a very serious mine fire November 1, 1913, which was supposed to have been caused by electric wires. Several of the Deputy Mine Inspectors were called upon at this time to assist Inspector Thos. S. Grogan, in whose district the mine was located. The fire was located about 3,000 ft. from the entrance to the mine. It was considered useless to try to extinguish the fire, and it was decided to seal it off. This work was attended with considerable danger, an explosion taking place while the work of sealing was in progress. Fortunately no one was injured. the workmen and those overseeing the work not having been in the direct line of the explosion. After further consultation it was agreed to be too dangerous an undertaking to continue the work of sealing off the mine in the locality in which the fire was located, and it was decided to seal the mine from the outside, which was done November 9, 1913. In addition to the seals at the openings of the mine, in an effort to confine the fire and the gases generated from it to as small a section as possible, a number of 8-inch holes from the surface to first, second, third and fourth north entries were drilled in a row across these entries. A strong mixture of sand and cement was poured down these holes in an effort to construct a barrier in these entries against the passage of the gases from the fire past this point. This effort failed of its purpose, however, as it was ascertained when the mine was re-opened that a series of semi-elliptical openings were left between the drill holes at the roofs of these entries.

The mine having been sealed for a period of ten months, it was decided to re-open it to ascertain if the fire had been extinguished, and the state rescue car arrived at the mine on August 16, 1914, several of the Deputy Inspectors having been called to assist in the work. Preparatory to re-opening the fire zone, shafts had been sunk to the roof coal overlying the first, second, third and fourth north entries, the surface at these points being only about 40 ft. thick.

On June 10th, 1914, Mike Tokash, an eight-year old boy, climbed down the ladder in one of these shafts and lost his life from the effects of the poisonous gases issuing from a drill hole from the bottom of the shaft to the mine. His body was found on the following day and in an attempt to recover it Andy Getsa also lost his life and Joseph King narrowly escaped a like fate. An analysis of a sample of the atmosphere in this shaft collected by Inspector Thos. F. Grogan, showed that it was highly charged with carbon monoxide and carbon dioxide.

August 17th, 18th and 19th were spent in preparations for blasting the bottoms of the shafts in the first and third north entries and in

making provisions for the restoration of the ventilation in the fire zone. This work was completed and communication was established between the surface and the first and third north entries on August 20th. On the evening of this date the Chief and Deputy Inspectors made an examination of the scene of the fire with the aid of breathing apparatus and found the fire to be entirely extinguished.

On August 21st, the main shaft was cleaned out and an effort to remove the black damp from the mine was then in progress; this will require a great deal of time as the mine has a large area, and there will be a number of stoppings to be built.

MEASURES OF SAFETY

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MEASURES OF SAFETY.

During the early part of the year 1914, The Industrial Commission of Ohio realizing the importance and necessity for provisions of safety in and around the coal mines of the state, and the number of fatal accidents appearing to be increasing from year to year, appointed a Safety Commissioner of Mines for the purpose of making special investigations into the cause of fatalities in coal mines, who was empowered to make such recommendations and to issue such rules and regulations as in his judgment, would tend to reduce the number of such accidents.

A number of measures for the promotion of safety in and around the mines was introduced during the year such as —

- a "Publishing Accident Bulletins."
- b "Trip Agreements regulating motor and mule haulage."
- c "Reporting condition of mines after a long suspension."
- d "Regulating the method of Solid Shooting."
- e "Requiring Fire Bosses to report daily to Deputy Mine Inspector."
- f "Regulation of Oil and Gas Wells penetrating coal measures."
- g "Recommendation of heating Mine Air."
- h "System of checking up compliances with Inspector's orders."
- i "Introduction of Arbitration and Conciliation in matters of differences between miners and operators."
- j "Publication of Excerpts of the mining laws in the various languages, and special Regulations to be observed."

A. Accident Bulletins.

The first measure of safety introduced by the Safety Commissioner was the publication of monthly accident bulletins, giving a detailed synopsis of fatal accidents and the facts and circumstances surrounding the accident; comments were made, and suggestions offered as to how the accident might have been prevented.

B. Trip Agreements.

Trip agreements regulating MOTOR and MULE haulage were also inaugurated; these agreements provided for the regulation of the number of persons permitted to ride at any one time; for the speed at which the trip should be run; for the prohibition of carrying powder, and for

the otherwise safe operation of the trip. This in accordance with Section 961 of the General Code. These trip agreements brought satisfactory results and are signed by all of the miners and operators of the state.

C. Reporting Condition of Mines.

After a long suspension such as was experienced during the year, mines are liable to get into a very unsafe condition from falls, accumulations of gas, disarrangement of electric wires, the filling up of refuse holes, and other unsafe conditions; in consequence this Department issued a circular letter calling attention to these matters and requesting all mines to be inspected thoroughly before being placed in operation; special attention was called to the examination of all machinery, fans, hoisting signals, electric wires, and refuge holes; in fact all mine equipment was to be thoroughly gone over and a report made to this Department.

The result of this request was very gratifying and the attentive and conscientious manner in which mine bosses and superintendents made their reports of the inspections of their mines was a source of much satisfaction to this Department. These reports showed that before men had entered the mine, every part of it had been inspected — giving the entries either name or number and the rooms that were opened up on same; they also reported any portion of the mine that was in bad or dangerous condition.

D. Solid Shooting.

In carrying out the provisions of Amended Section 976 of the General Code passed February 5, 1914, relative to the method known as "Solid Shooting," — this Department prepared a list of questions which it was necessary for any coal company that desired to mine coal by this method to fill out and return to us together with a petition to which was to be attached the signature of the coal company as well as the signatures of a majority of their employees.

These questions related to the following:

- The amount of powder used;
- Whether dynamite and powder were used in the same shot;
- Whether any cutting was done, and whether or not the coal was shot over a heel;
- Whether squibs or fuse were used; if both were used, whether squib was used for firing the first shot, and fuse lighted to fire the second, both being lighted at the same time.

Coal companies were also requested to answer fully the questions relating to this method of mining coal, and if they met with the approval of the Department, a permit was granted. As it was impossible to draw

up a set of rules governing the size of a shot and preventing the miner taking too great a grip and using an excessive amount of powder, the Mining Department specified the amount of powder that would be permitted in each shot; in this way, the miner is compelled to drill the hole in such a way that he will not grip a greater amount than the permitted amount of powder will remove.

These rules related to:

The amount of powder permitted to be used; and the spread of the bit;

Dynamite was prohibited, as well as excessive charges of powder; shots were to be fired in rotation, and in all mines where more than 15 men were employed, all shots were to be fired at quitting time, and no more than 50 men were to work on any one split of air where solid shooting was practiced.

E. Fire Boss Reports.

There being no system by which the Mining Department could keep in touch with the reports of fire bosses employed at the various mines of the state which generate fire damp, and feeling that in mines where a small amount of gas was being found in the works that there might be a certain amount of carelessness on the part of the fire boss, and as is a well known fact established amongst mine men there are no mines more dangerous than those generating a small amount of gas, the Mining Department felt the necessity of installing a system by which it could be kept in close touch with all the gaseous mines of the state.

In order to do this, the Mining Department prepared fire boss blank report books which were mailed out to all coal companies operating mines generating gas where it was necessary to employ a fire boss. Instructions were given that they be filled out in duplicate, the company retaining the original and mailing the duplicate to the Deputy Mine Inspectors in whose district the mine was located.

After these reports have been gone over by the Deputy Inspector, they are mailed to this office to be checked over and any suggestions given as may be deemed necessary. These blanks provide for reporting where gas is found, giving the name or number of the entry and the number of room on the entry and the direction of same. The fire boss is also expected to report any other dangerous conditions he may find such as falls of roof, bad top, mis-placed or broken timbers, mis-placed wires or any other lurking dangers.

F. Oil and Gas Wells.

Oil and gas wells to be drilled within the limits of coal-producing counties although safeguarded to some extent by law, have caused serious concern on account of some of them being drilled through coal mines in operation, and proper precautions for safety in some instances not being taken.

So serious became the situation that a Resolution was recommended by this Department and was adopted by The Industrial Commission of Ohio, July 6, 1914, requiring all oil and gas well companies to file a map showing the location of wells to be drilled ten days before commencing to drill said well or wells.

Upon receipt of the proposed location, if satisfactory and in compliance with the statutes regulating same, a permit is issued giving authority to drill these wells. This requirement met with opposition and disapproval by many of the oil and gas well companies, and the matter was taken up with The Industrial Commission of Ohio. This conference resulted in a Committee being appointed consisting of L. A. Bartlett, Lemuel G. Neely and J. M. Garard, representing the oil and gas well companies; F. S. Knox, Jno. Simpson and Harry Cameron, representing the coal companies; J. A. Bownocker, State Geologist; F. A. Ray, Mining Engineer and J. M. Roan, Chief Deputy and Safety Commissioner of Mines, who acted as chairman.

This committee was instructed to investigate the question of oil and gas wells penetrating the coal-producing counties of the state from every angle, and was requested to report to The Industrial Commission of Ohio some plan that would be satisfactory to all persons interested and which would not work a hardship on the oil and gas companies; at the same time "Safety" was not to be ignored, and the future operation of coal lands yet undeveloped was to be taken into consideration, and life and property protected.

G. Heating Mine Air.

Early in November this Department issued a bulletin to Operators, General Superintendents, Mine Bosses, and Mine Foremen relative to the dangers arising from cold weather; the Department recommended that where possible the air be heated or brought up to not less than 45 degrees, or as close as possible to the temperature of the mine. It is a well-known fact that the cold air in a mine carries with it great danger; it absorbs the moisture from the mine works, and the result is, it leaves a dry dust which is very dangerous.

The method of carrying out this plan was left to the judgment of the mine management owing to local conditions varying in different parts of the state.

H. Checking up the Deputy Inspector's Orders.

During the year this Department put into operation a system of checking up all orders issued by the Deputy Mine Inspectors to Mine Managements. In this way an order is kept track of until there is a compliance made out in written form and filed with the Department of Mines. The Deputy Inspector is then advised that all orders issued by him have been complied with within the time limit specified by him when making the inspection.

I. Matters of Arbitration and Conciliation.

During the year the Safety Commissioner and Chief Deputy has been called upon by The Industrial Commission of Ohio to act as Arbitrator where disputes have arisen between employer and employe and there has been difficulty in effecting a settlement. Chief of these was the settling of strikes in and around the brick plants and clay mines of the Shawnee and Straitsville Districts, which had been suspended for about three months, on account of differences, and which they finally decided to arbitrate and requested The Industrial Commission of Ohio to name an Arbitrator; this matter was referred to the Mining Department and all disputes were adjusted to the entire satisfaction of both employer and employe, and a three year contract signed which covered in detail all classes of labor in and around the plants and coal mines. Many other local cases of arbitration have been disposed of by the Mining Department acting as Mediator.

J. Rules and Regulations Affecting English and Non-English Speaking Persons Employed In and Around the Mines of the State.

Owing to the numerous fatal and non-fatal accidents in the state of Ohio, the greater number being attributable to carelessness and neglect on the part of the Mine Management and Miners, it was brought to the attention of The Industrial Commission of Ohio, through the Division of Mines, the fact that some of the laws of the state were in many instances being violated.

The Mining Department felt that a great many of the violations were due to the fact that mine managements, miners and men employed in general, did not familiarize themselves with the laws under which they labor; therefore, for the purpose of enlightening all nationalities in their own language, as well as the English Speaking miner, it was deemed advisable that excerpts of the mining laws be printed in pamphlet form and a set of rules attached thereto governing the different occupations in and around the mines, with a request that all familiarize themselves with the same in order to carry out the advice given and, as far as it is within the power of all those connected with mining in any way, to assist in seeing that the same is carried out.

The mining laws in condensed form with rules governing same, have been printed in the English language, and we expect soon to have them finished in the foreign languages, when they will be distributed to each and every person in and around the mines,—superintendents, mine bosses, and all vested with authority, as well as miners and mine laborers.

The education of workmen as to their duties under the law in the opinion of the Mining Department will have a good effect, and will stimulate interest in their work.

Discipline is as necessary in and around the mines as it is in a factory, and is considered more necessary, as there is no place where men meet with as many dangers as they do in the mines.

BULLETINS

Accident.

Special.

(475)

BULLETINS — ACCIDENT.

THE INDUSTRIAL COMMISSION OF OHIO.

Department of Chief Deputy and Safety.
Commissioner of Mines.
Columbus.

WALLACE D. YAPLE,
Chairman.
M. B. HAMMOND,
Vice Chairman.
T. J. DUFFY.
GEO. L. STOUTON.
Secretary.

DIVISION OF
MINES

BULLETIN NO. 1.

JANUARY 10, 1914.

SAFETY FIRST CONSIDERATION.

To the Operators and Miners of Ohio:

This being the first bulletin issued by the Safety Commission of Mines, would respectfully ask the co-operation of Miners and Operators in all safety work.

Second: That there be a bulletin board placed at each mine at the opening, where all miners in going to their work can see same, and that this and all other bulletins issued by this Division from time to time be posted on said bulletin board.

FATAL ACCIDENTS.

January 2nd. Steve Paul, killed at the Laughlin Mine by fall of stone at face of working place. Stone post should have been set.

January 3rd. Albert Skinner, killed at the Stratton Coal Mine by fall of slate in room neck. Entry was being brushed for height; left over-hanging stone on side; miner drilled three holes to shoot first crossing off solid; fired two shots, and went back to fire the third in smoke; over-hanging rock falling on him and killing him instantly. Deceased should have waited until smoke had cleared away, and examined the roof before attempting to fire third shot, as in brushing the roof to make height there is always likely to be loose or sprung stone hanging on the sides.

January 6th. Steve Naggy, killed at the Florence Mine by coming in contact with an electric trolley wire. While riding out in last trip he attempted to climb over to front car while trip was running, and head came in contact with live wire. He should not have attempted to go from one car to another as this is a very dangerous practice. His endeavor to save time and to be one of the first out of the car when reaching the outside, cost him his life.

J. M. ROAN,
Safety Commissioner of Mines.

BULLETIN NO. 2.

JANUARY 15, 1914.

To the Operators and Miners of Ohio:

January 7th. Weinzel Opatriny, killed in Heinline Coal Mine by fall of stone. Had taken in a car and loaded all but five or six shovels-ful. Presume he had intended to take down the stone when he had finished the car. He should not have taken any chance in loading the car, but should have taken down the stone as it was cut loose at both ends. In cases of this kind, miners should take no chances, not even attempting to prop up stone when cut loose. The only thing to do, take it down.

January 7th. John Kamoski, killed in Neff Mine by fall of stone. Stone had been cut off on left-hand rib by shot, and slip completely cut it off along the face. He had only set two props under it. Stone so heavy tripped props. Sufficient props should have been set to secure stone across face, rib and edge or stone taken down.

REMARKS.

Miners should take no chances on draw slate or stone, but be sure that it is secured, or taken down, as it is always very treacherous and dangerous.

J. M. ROAN,
Safety Commissioner of Mines.

BULLETIN NO. 3.

JANUARY 30, 1914.

To the Operators and Miners of Ohio:

January 21, 1914, Archie G. Johnson killed in Media Mine.

Johnson was a trip rider on gathering motor, and going in on trip, they cut trip in two leaving five empties standing on the entry; then went on with the rest and gathered eight loads. On coming out with loaded cars, they seem to have forgotten the five empties standing on the entry.

Johnson was riding front end of motor, and at the point where the empties were left, the height of entry was only 3 feet 11 inches from the rail, and from the top of motor to the roof it was only 7 inches.

It seems that when Johnson saw empties being very close to them, he jumped up and was rolled between the top of motor and roof—killing him.

REMARKS.

We appreciate the fact that it is often-times necessary for helpers on gathering motors to be in front of the motor while *gathering their trips*, but after trip is made up, trip rider should never ride on front end of motor.

Further—where roof is as low as it was at this point, there should be no slate or refuse left along the entry. Where accident occurred, there was slate and posts on one side of entry and slate on the other, which made it difficult for this man to get out of the way.

Further—all motors should be equipped with proper lights and kept in good repair, as many accidents are happening on account of poor lights on motors.

J. M. ROAN,
Safety Commissioner of Mines.

BULLETIN NO. 4.

FEBRUARY 13, 1914.

To the Operators and Miners of Ohio:

February 5, 1914, Liberato Colichio was killed in Rail & River Mine No. 1 by fall of coal.

It seems that he had the shot sheared through to the solid on the rib and was reaching under it, when it rolled over, killing him.

He should not have reached under the shot, but have used a bar or drill and pried it down.

February 6, 1914, Edward Loyd killed, Rend Mine, by being caught between railing and empty car.

At this mine there is a working platform 3-feet 4-inches wide and 180 feet long. The duty of the deceased was to cut trips for the motor, and it seems as though he waited too long before cutting trip and was caught between motor and railing—killing him.

He should not have attempted to cut trip after he had found he had passed wide place.

February 9, 1914, Frank Evelana killed, No. 1 Jefferson Mine.

The deceased was a driver and had passed the front car on the right side and made the coupling of the two cars; he then started around rear car to room neck and was in the act of jumping between cars, onhitching, when mule started trip without being spoken to; he then made an attempt to jump between cars and ran along side of cars, trying it again and again, until he came to a point where track was close to rib at room neck and was caught between rear car and rib—instantly killing him. He should not have attempted to climb between cars.

REMARKS.

First—Miners should not attempt to take down standing shots by the use of picks. They should always use bar or drill when close to powder crevice.

Second—Men should be very careful on cutting trips to see that they are in place wide enough for them to avoid being rolled.

Third—Mine Management should avoid as much as possible having narrow places in close proximity to where men have to cut motor, rope or mule trips.

Fourth—Drivers should never attempt to climb between the cars, or ride the front end at any time, but should always ride the rear end.

J. M. ROAN,

Safety Commissioner of Mines.

BULLETIN NO. 5.

FEBRUARY 17, 1914.

To the Operators and Miners of Ohio:

January 24, 1914—William Martin was injured in Superior Mine No. 9 and died on February 9, 1914.

Martin was a machine runner handling a breast machine. He and his buddie placed a jack pipe, or boot, between the truck and the bit for the purpose of unloading the machine by using power. When current turned on, machine jumped, causing bit to break and pipe flew and struck the deceased, which was the cause of his death.

REMARKS.

Machine men should not use power for unloading or moving machines across face of room. It is a very dangerous practice. Should use bars or skids; and if machine is not equipped with same, (bars and skids) it should be left idle until properly equipped.

J. M. ROAN,
Safety Commissioner of Mines.

BULLETIN NO. 6.

FEBRUARY 24, 1914.

To the Operators and Miners of Ohio:

February 18, 1914—Paul Zalesky killed by fall of draw slate and coal. It seems that Zalesky had fired his shot which hung, or commonly known as standing shot. He was shearing on the center, cutting through to the powder crevice. The draw slate which was very heavy was cut across the face by a slip, and the weight upon the coal caused it to give away sooner than expected, falling on him and killing him instantly.

REMARKS.

Miners should always set bracing post to draw slate and coal when shearing, and never cut close to powder seam with pick, but use bar or drill to punch it out.

J. M. ROAN,
Safety Commissioner of Mines.

BULLETIN NO. 7.

MARCH 4, 1914.

To the Operators and Miners of Ohio:

February 20, 1914—George Hotea killed in Florence Mine.

He and his buddy, Anton Kuhn, had fired shot in center of room known as opening or breaking-down shot (after machine had cut). The shot hung and Kuhn was shearing back along drill hole, and when he sheared close to powder crevice, coal gave away. Kuhn threw himself out of the way and the coal caught George Hotea who was in front of the shot preparing to set a prop.

February 26, 1914—George Edwards killed in Rice Mine.

The deceased was riding in front end with one foot on the tail chain and the other sliding the rail. He tripped and fell, car running up on him—crushing him to death.

On a recent visit of the Mine Inspector to this mine, he gave the drivers instructions, in the presence of the Mine Boss, not to ride the front end; and the Assistant Mine Boss warned the deceased a day or two before the accident—not to ride on the front end.

REMARKS.

First—Kuhn should not have sheared the shot before setting brace or safety post against the coal, and he should not have gone close to powder crevice with pick, but used drill or bar to punch out the binder.

Second—George Hotea should not have been in front of the shot at all, but stood back out of the way and listened carefully for any indication of the shot breaking loose. Standing shots are very dangerous and sometimes hang

on a very small binder and men should use the greatest care in protecting themselves in working it down.

In previous bulletins, we have advised against drivers riding the front end and between cars.

NOTICE—Mine Managements will issue instructions that the riding on front ends and between cars is *strictly prohibited*.

Mine Bosses and Mine Foremen will see that the above instructions are carried out.

THE INDUSTRIAL COMMISSION OF OHIO,

J. M. ROAN,
Safety Commissioner of Mines.

BULLETIN NO. 8.

MARCH 16, 1914.

To the Operators and Miners of Ohio:

February 27, 1914—Anthony Paudla killed at Fox Mine No. 12.

Paudla was a machine runner and had loaded machine on truck and was in the act of putting propeller chain on machine; and the truck, standing on a 6 per cent grade, ran over cap pieces which were used for chocks, catching Paudla, running over him—causing his death.

March 4, 1914—Frank Stoper killed at Plum Run Mine No. 1.

At eleven o'clock on the day the deceased was killed, the Safety Boss found him working under draw stone. Safety Boss stopped him working and ordered him to set post. Deceased objected at first, but Safety Boss insisted on post being set which was done before he left the place. After Safety Boss left the room, Stoper removed the post which was shown by inspection of the place after accident, as post was found on top of other post 12 feet from the face.

REMARKS.

First—Machine men should never depend on "chocks" in front of wheels to hold machine truck, but use sprags.

Second—Stoper's death was a clear case of disregard of instructions given by Safety Boss, and had he left post setting as per instructions, he would not have lost his life.

Moral—Only One Safe Way, and that is—Obey Instructions in Matters of "Safety."

J. M. ROAN,
Safety Commissioner of Mines.

BULLETIN NO. 9.

MARCH 25, 1914.

To the Operators and Miners of Ohio:

March 10, 1914—Noble Irwin killed at A. & C. Mine by explosion.

Mr. Irwin and his buddie started to charge a hole; cartridge stuck. Their tamping bar had copper end; they tried to push it back with copper end, failed, then reversed bar, using steel end, striking sulphur, exploding powder—burning Irwin to death and seriously burning his buddie.

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March 12, 1914—Peter Siranni killed at Virginia Hill Mine by Fall of Draw Slate. Deceased was working under two cuts of draw slate which had been left up in the entry in which he was working and no props had been set under same, large piece falling—killing Siranni.

March 14, 1914—Alfredo Vanicello killed in Schick Mine by Fall of Stone. Vanicello was making an effort to clean up left-hand corner of room when stone fell—killing him instantly. There was a large scope of draw slate with part of previous cut hanging and only one post set under it and slip running parallel with the rib. This stone should have been taken down before any of the coal was loaded out.

March 14, 1914—Alex Manna killed at Provident No. 1 Mine by Mine Car. Manna was on his way in mine to work at night and was standing on empty car track, and when motor was pulling up with empty cars, changed his position to across the entry; empty jumped track; trip-rider yelled at him to get out of the way; motorman could not see him on account of being around a curve; empty struck frog, threw car over to rib, catching Manna's head—killing him instantly. There was an Electric "Safety" First Sign 13 feet from where he stood. There was a manhole $37\frac{1}{2}$ feet from where he stood. The ribs from the shaft is past the point where white-washed and Electric "Safety" First Signs were prominently suspended from the roof.

March 16, 1914—Stanley Angel killed in Blaine Mine by fall of roof. Deceased and his buddie were loading car when portion of regular roof 6-ft. by 4-ft. by 12-in., fell—killing Angel. His buddie says that they were both aware of the dangerous condition of the roof, but did not put posts under it. The nearest post set was 11 feet from the face. There were plenty of extra posts and cap-pieces in the place.

REMARKS.

First—Noble Irwin should not have reversed his tamping bar when cartridge failed to go back, but used his needle to loosen the powder, and either scraped it out and made new cartridge or pushed it back with copper end. Under no circumstances, should a man use iron or steel, or any metal, but use copper end or wood tamping bar.

Second—Peter Siranni should not have worked under the second crossing of draw slate, but should have securely propped it or taken it down. Close inspections are necessary by Mine Management to see that men are not permitted to work in places where dangers of this kind exist, and insist upon places being properly secured, or slate taken down.

Third—Alfredo Vanicello should not have gone under stone. This is a case where stone should have been taken down. Also surprised that machine men should have cut the place with draw slate hanging. Closer inspection in matters of this kind is necessary by Mine Management.

Fourth—Alex Manna—The case of Manna is another warning by the loss of life that men should not loiter on their way to work, and especially around shaft bottoms where motors and trips are running. Had he gone on to work, he would not have lost his life.

Fifth—The death of Angel is a clear case of negligence on the part of himself and his buddie, they both having a knowledge of the dangerous condition of the roof and not posting it.

J. M. ROAN,
Safety Commissioner of Mines.

BULLETIN NO. 10.

APRIL 2, 1914.

To the Operators and Miners of Ohio:

March 21, 1914—Edward Van Meter killed in Maynard No. 3 Mine by slate that had slid off top of coal that had been shot. This was a pure accident, as Mr. Van Meter was a very careful miner and kept his place well timbered. On account of a previous injury to his back, Mr. Van Meter had to do the greater portion of his work on his knees, which made it very difficult for him to get out of the way of the slate when it started to slide.

March 21, 1914—Ludwik Dzezar killed in Edgar No. 2 Mine by Fall of Stone. He and his buddie left draw slate up all the way across room, setting three stone posts, leaving a space of 10-feet 8-inches between last post and rib. Deceased was shoveling coal from next to rib to his buddie who was shoveling same into car when heavy piece of stone between post and rib fell—killing him instantly.

March 25, 1914—William Morris killed at Troll No. 4 Mine by Mine Car. Mr. Morris was on his way out from work; came to point where motor was making up a trip, and as motor pulled out of entry, deceased was standing on main track. Motor pulled out of entry; started to back down main track to get rest of trip; deceased stepped to side of track, rib being close, cars caught him—rolling him and crushing him to death. There was a man-hole 4-feet from where he was caught and trip rolled him into same.

REMARKS.

Miners should make every effort to take draw stone down, but in case they fail, they should secure same with timber. Space of 10-feet 8-inches is much too great a distance to trust to stone staying up.

When necessary to travel on motor roads, miners should be very careful and not attempt to stand along rib at any point when a man-hole can be reached, as it is very dangerous, and brake dropping down might swing out, or a bent binder or car jumping track catch him—while in man hole, he would avoid these dangers.

J. M. ROAN,

Safety Commissioner of Mines.

BULLETIN NO. 11.

NOVEMBER 11, 1914.

To the Operators and Miners of Ohio:

Injured July 22, 1914, Died Oct. 9, 1914—JAMES MONROE—killed at Boswell & Vititoe Mine by Fall of Slate in the neck of a room while loading a car.

The Mine Boss advised the deceased to take down slate, but he disregarded the order—and was killed.

Had the deceased obeyed the instructions of the Mine Boss, it would have saved his life.

September 12, 1914—GEORGE COOK—Hazelton Mine.

The deceased was in the act of shearing a standing shot with a pick. His buddie wanted to use drill to punch out binder, but the deceased thought he could use pick to weaken same—stuck a few licks with pick, saw the coal moving and put pick against shot and tried to hold it back. He was standing close to rib and the coal drove the pick handle through his leg, causing a bad wound; otherwise, he was untouched. Blood Poison set in which caused his death.

Had deceased taken the advice of his buddie and used drill—the accident would not have occurred. *Drill should always be used in loosening binder or standing shot*, as it gives chance to get away when shot starts to roll over. There is a poor chance of escape if shearing with a pick.

October 3, 1914—CHARLES KULA, Bohemian—killed at Elizabeth Mine.

The deceased and his buddie were traveling along the entry on way out of mine at quitting time when a piece of slate at the mouth of No. 8 Room fell on him—killing him instantly. No. 8 had caved in from the mouth inward some-time previously, and in order to protect the entry, two timber sets had been placed on the same at the mouth of the room. Evidently there had been some further move in strata overlying the No. 8 Room during the day that affected the roof at the mouth of the room.

This accident emphasizes the necessity of Mine Bosses, Mine Foremen, Track Layers and Fire Bosses keeping close watch on all haulage roads and traveling ways, as well as working places; in fact, to keep in their minds that a roof might become dangerous at most any moment; and if all keep this in their mind in passing back and forth through the mine, any loose slate or mis-placed timbers will be noticed; or in other words—ALWAYS BE ON LOOK-OUT FOR DANGER.

October 9, 1914—HARLEY SPENCER—killed in Minnehaha Mine.

Spencer was in charge of a gathering motor, and with his helper had been gathering coal all day and had made nine trips, hauling as high as eight cars at a trip. A part of their duty was to open and shut the trap door which they passed through; this, they had done regularly up to the last trip in the evening and were coming out with motor and one care running at a very high rate of speed with helper on front end of motor. The helper became frightened and jumped off. The deceased made an attempt to jump in man-hole close to the door, but failed, and was thrown back against motor—and was killed.

Had deceased used as much care with the last trip as he had in the previous trips during the day, the accident would not have occurred.

This should be a warning to others to handle their motors with care and avoid accident.

October 26, 1914—WILLIAM M. RAINEY—killed in the Harryette Mine.

The deceased was running a short wall machine and had room almost cut when a slab of coal fell off the face killing him.

Machine men should be very careful and sound the face of coal before starting to cut, looking out for powder cracks; also sound roof. The sounding of roof might be neglected on short wall machines, as there is no back jack to set. *Miners should use much care in putting their room in a safe condition for machine men.*

There was complaint made about the condition of the above room by machine men on opposite shift; and had the room been put in proper shape, it is very likely that the deceased would not have lost his life.

November 5, 1914—JOHN MONK—killed at Price Mine.

The deceased and his buddie were drawing entry stumps and were working open-ended. The deceased was mining on a shot when the roof fell, and there was only one post set.

Entry pillars should not be worked open end, but stump of coal should be left for protection.

Miners should see to it that there is a sufficient number of posts set.

Mine Bosses should never delay their visit to working places for the purpose of doing repair work on a pump—SAFETY FIRST CONSIDERATION at all times.

Very truly yours,

J. M. ROAN,

Chief Deputy and Safety Commissioner of Mines.

BULLETIN NO. 12.

December 12, 1914.

To the Operators and Miners of Ohio:

November 6, 1914—RAYMOND RUSSELL—killed at Maynard No. 2 Mine by "Motor".

Russell was a trip-rider and had a habit of riding front end of motor while doing switching. Motor would make up trips from two switches, and while taking half of trip to thirteenth South switch, Russell failed to get off the motor, motor running through door, Russell either falling or being knocked off, rolled under motor—and was killed. Motorman tried to reverse his power when he saw that Russell had not gotten off, but claims it failed to work, and motor ran sixty-two feet before being stopped.

Remarks—Russell should not have been on the front end of the motor.

Motor should never approach a door where motorman or trip-rider is expected to open without coming to a full stop and let trip-rider go ahead and open door—signaling him to come ahead when ready.

We are having too many cases of motors running through doors, which shows carelessness, and Mine Managements are requested to put a stop to it.

November 10, 1914—WILLIAM GREETER—killed at Willow Grove by Fall of Stone.

Greeter had taken down piece of coal from rib on left side of room, and was in the act of shoveling same over to track, when piece of stone weighing about a ton, fell—crushing him to death.

Remarks: Deceased was cautioned by District Inspector and also by Foreman to be more careful in timbering, and he ignored the warning. He should either have taken down stone or set props under same before starting to shovel the coal from under it.

Miners should never disobey an order to set timber for their safety or disregard any chalk marks or warnings of any kind, as they are all intended for their safety.

November 17, 1914—CHARLES SMITH—killed at Superior Mine No. 12 by Fall of Timber and Slate.

Smith and four others, including the Mine Foreman who was in charge of the work, examined the timbers and decided to take them and the over-lying slate down. For protection, they intended to set cross-caps next to the broken cross-timbers; had cut notches in rib and intended to set leg under other end and found leg too long and started to saw same off with cross-cut saw—when timber and slate let loose without warning—killing Smith.

Remarks—Men should never attempt to put up cross-timbers to replace broken ones without first having secured the broken caps with props. While a broken cap might hang for some time when not being disturbed, it is very apt to give way when being jarred by setting other timber close to it, and had there

been posts set under the broken cross-timbers, this accident would not have occurred.

We wish to call your attention to the accident of John Bado which occurred at Pan American Mine on Dec. 8, 1914, in which "Bado" lost both of his feet.

Bado was working on a Mining Machine that was handled by a self-propelling truck and had run same into the first East off South, and had set some bits before unloading and had used power for spanning the chain. They neglected to disconnect the power from the machine and had started to unload and the cable caught over the starting lever, starting machine, catching Bado in bits drawing him into the machine until machine had to be reversed to get him free.

Remarks—The safe custom that used to, and should still prevail is—that men should span their machine with a spanner. This is being ignored by a great majority of machine men, they using the power for this purpose which saves labor, and at the same time, causing many accidents.

Here is a poor fellow who is disabled for life (if he should recover) on account of not using the proper care.

Machine men, as well as all other men around the mines, should first remember their own lives and limbs, and also remember those who are dependent upon them and never start any piece of machinery until same is examined and dangers removed.

Very truly yours,

J. M. ROAN,

Chief Deputy and Safety Commissioner of Mines.

BULLETINS — SPECIAL.

BULLETIN A-4.

THE INDUSTRIAL COMMISSION OF OHIO.

Department of Safety.
Columbus.

WALLACE D. YAPLE,
Chairman

M. B. HAMMOND,
Vice Chairman

T. J. DUFFY,
WILLIAM C. ARCHER,
Secretary

DIVISION OF
MINES

APRIL 3, 1914.

SAFETY FIRST CONSIDERATION.

The Industrial Commission of Ohio, Columbus, Ohio.

DEAR SIRs: The following is report of fatal accidents in the Mines of Ohio from January 1, 1914 to April 1, 1914:

Name of County.	Fall of Coal.	Fall of Stone.	Caught by Mine Car.	Electricity.	Mining Machine.	Premature Explosion.	Explosion of Gas.	Explosion of Powder.	Nationality.		Total Fatal Accidents.
									American.	Foreign.	
Belmont	1	9	3	.....	.....	.....	1	.....	2	12	14
Harrison .....	.....	1	.....	.....	.....	.....	.....	.....	1	.....	1
Jackson .....	.....	.....	.....	.....	1	.....	.....	.....	1	.....	1
Jefferson .....	.....	2	2	1	.....	1	.....	.....	2	4	6
Meigs .....	.....	1	.....	.....	.....	.....	.....	.....	1	.....	1
Perry .....	.....	1	.....	.....	.....	.....	.....	.....	1	.....	1
Stark .....	.....	.....	.....	.....	1	.....	.....	1	1	1	2
Total	1	14	5	1	2	1	1	1	9	17	26

Total — January 1, 1913 to April 1, 1913..... 32

Total — January 1, 1914 to April 1, 1914..... 26

Decrease 6

While the above is fairly satisfactory and shows a saving of six lives as compared with the same period of 1913, we hope with the co-operation of opera-

tors and miners, that the accidents will be materially reduced, especially in those counties where there are so many accidents on account of the fall of the strata that lies just above the coal, commonly known as roof stone.

In many places, the operators are putting on Face Bosses to patrol the working faces, and we are glad to say that the miners, in most instances, are obeying instructions and co-operating with them in the setting of timber as directed for their protection..

The good work of the District Mine Inspectors is very commendable and appreciated by both operators and miners.

J. M. ROAN,

Safety Commissioner of Mines.

BULLETIN A-2.

SAFETY FIRST CONSIDERATION.

NOVEMBER 11, 1914.

ADVANCE SHEET.

SHOWING NUMBER OF FATAL ACCIDENTS OCCURRING IN COAL MINES DURING THE SIX MONTHS ENDING JUNE 30, 1914, WHICH RECEIVED COMPENSATION FROM STATE INSURANCE AWARDS OF THE INDUSTRIAL COMMISSION OF OHIO.

Name	Age	Dependents	Occupation
17046 W. Opatneny	45	Wife, 3 children.....	Miner
17306 Steve Nagy	30	Wife, 2 children.....	Motorman
18156 Glen Johnson	20	Wife	Motorman
18631 John Kosmoski	NR	None	Miner
18636 Morelli Emillo	29	Wife, 2 sons.....	Miner
19021 William Martin	34	Wife, 4 children.....	Miner
20477 Liberato Colicchis	26	Wife, 1 child.....	Miner
21560 John Millard Moore.....	21	Mother, Father, 5 Sisters, 1 Brother, partially.....	Miner
21820 Paul Zalenki	26	Wife, 4 children.....	Miner
22472 George Hotea	30	Wife, 4 children.....	Miner
22734 Jos. Hora, Sr.	NR	Father, Mother, partially.	N. R.
23036 Geo. Edwards	19	Mother, partial	N. R.
23425 Anthony Padula	NR	Wife, 2 children.....	N. R.
25882 Alfredo Vancella	19	Father, Mother, 1 Sister, 3 Brothers	N. R.
26005 Stanley Yonulick	30	None	Miner
26035 Alex Marma	NR	Wife	N. R.
27242 Sam J. Williams.....	27	Wife, 2 children.....	Miner
27815 Chas. Friel	22	Wife, 1 son.....	Miner
28312 Wm. Morris	NR	Wife, 1 daughter, unborn child	Miner
28331 Kalem Pataky	38	Wife, 2 sons, unborn child	Miner
28724 Peter Sirranna	33	Wife, 1 daughter.....	Miner
33921 Elsworth Dayton Hayman.	19	Father, Mother, 2 Sisters, 1 Brother, partially.....	N. R.

THE OBJECT IN SENDING OUT THIS BULLETIN IS AS FOLLOWS:

FIRST—To rivet the attention of the miners to the many dependents that are being left through the fatal accidents that are occurring throughout the State.

You will notice that the dependents are composed of children, fathers, mothers, sisters, brothers and unborn children.

I hope that when the miners, and all connected with the mines, read the above, that it will make a lasting impression, and that they will use every means to prevent those fatal accidents.

SECOND—I want to call attention to the above which shows very clearly, that it is the younger men in the mines who are being killed, and far the greater number, thirty years and under, as the record shows that there was only one who was forty-five years of age.

This would indicate that the younger men feel that they are more active, and in this way, take many unnecessary risks.

Further— young men are more apt to resent advice given by others.

The one thing that we hope to see in the mines above all others—is discipline; and when I use the word “discipline” I apply it to Mine Superintendents, Mine Bosses, Mine Foremen, Fire Bosses, miners and all mine employes; and when working along this line,* the number of deaths will be reduced, which will naturally reduce the number of widows and orphans.

Hoping that all will join with this department in promoting discipline in the mines, I am

Very truly yours,

J. M. ROAN,
Chief Deputy and Safety Commissioner of Mines.

MARCH 30, 1915.

BULLETIN A-4.

SAFETY FIRST CONSIDERATION.

ADVANCE SHEET.

SHOWING NUMBER OF FATAL ACCIDENTS OCCURRING IN COAL MINES DURING THE SIX MONTHS ENDING DECEMBER 31, 1914, WHICH RECEIVED COMPENSATION FROM THE STATE INSURANCE AWARDS OF THE INDUSTRIAL COMMISSION OF OHIO—ALSO FATAL ACCIDENTS FROM JANUARY 1, 1914, TO DECEMBER 31, 1914, INCLUSIVE.

<i>Claim No.</i>	<i>Name.</i>	<i>Age.</i>	<i>Dependents.</i>	<i>Occupation.</i>	<i>Cause of Accident.</i>
20754—	Frank Williams	23	None.	Driver	..... Caught between mine car and rib.
29315—	Edward VanMeter	NR	None.	Miner	..... Fall of slate due to slip.
32570—	Charles Maruzik	31	Wife, 2 children.	Miner	..... Fall of slate due to removal of I beam.
33109—	Louis Dzierza	35	Wife, 3 children.	Miner	..... Fall of stone due to slipping of posts.
38585—	Edward Neville	32	Wife, 2 children.	Miner	..... Fall from floor at top of tipple.
42357—	Samuel Mills	30	Wife, 2 children.	Miner	..... Fall of slate.
53138—	Thomas Lomax	36	Wife, 3 children.	Miner	..... Fall of slate at face of entry.
55240—	Clarence Swanger	42	Wife, 3 children, wholly; 1 daughter, partially.	Miner	..... Fall of slate.
56305—	George Cook	70	Wife, 1 grand-daughter.	Miner	..... Fall of coal while shearing in, driving pick-handle through thigh.
57945—	Orville Touvell	16	Mother, partially.	Miner	..... Fall of slate.
59456—	Artie Spencer	19	Father (invalid) step-mother, 2 half sisters, 2 half-brothers, 1 step-brother, wholly.	Motorman	..... Caught between car and mine rib due to jumping from motor when unable to stop it at trap.
59457—	James Christian	49	Wife, 1 child, wholly; 1 son, 1 daughter, partially.	Teamster	..... Fall from wagon (wheel passed over head).
59458—	John Gallagher	53	Daughter, wholly (invalid).	Miner	..... Fall of stone and timber due to attempt to straighten post under timber.
61131—	John Kirk	56	Wife, 2 children.	Miner	..... Fall of coal.

61626—Herman Eppley	23	Wife.	Driver	Not known, but supposed that he fell from car and was run over.
61956—Wm. Mansel Rainey	33	Wife, 3 children.	Miner	Fall of coal during operation of mining machine.
63522—John Monk	23	Father and brother, partially; twin sister, wholly.	(Machine operator)	
64064—Raymond C. Russell	23	Wife, 1 son.	Miner	Fall of slate during drawing of pillars.
64073—John G. Davis	59	Wife, 5 children.	Miner	Caught under wheels of car, due to losing control of motor, running through door and being knocked off.
64083—William Greeter	NR	Wife, 2 children.	Miner	Fall of stone.
67035—Charles S. Smith	23	Wife, 2 children.	Miner	Fall of slate.
			Miner	Fall of slate and timber while timbering.
SELF INSURED.				
Steve Pal	24	None.	Miner	Fall of stone.

FATAL ACCIDENTS FOR THE YEAR 1914 BY COUNTIES.

County.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Athens								1				1	2
Belmont	6	3	6	1		1							17
Harrison		1											1
Hocking				1									1
Guernsey				2						3		1	6
Jackson		1								1	4		6
Jefferson	1	3	2				1			2			9
Meigs			1		1	1			1		1		5
Perry		1								2	1	1	5
Portage				1									1
Stark			2							1	1		4
Tuscarawas											1		1
Vinton								1					1
Total	7	9	11	5	1	2	1	2	1	9	8	3	59

* This list does not contain three accidents occurring in October, November and December, 1913, and terminating fatally in January and February, 1914, which occurred in Guernsey county.

THE OBJECT IN SENDING OUT THIS BULLETIN IS AS FOLLOWS:

To get into the hands and minds of those interested, the facts of the fatalities in the coal mines of our State as soon as possible after the closing of the Year 1914.

During the Year 1913—162 fatalities were reported, and there was mined in that year 36,285,468 tons of coal.

During the Year 1914—59 fatalities were reported and estimated tonnage based on the reports received, there was mined 18,500,000 tons of coal.

From these returns it will be seen that 223,984 tons of coal was mined to the life lost during the year 1913.

During the year 1914—there was 313,569 tons of coal mined to the life lost, or, 89585 more tons of coal was mined to the life lost in 1914 than 1913.

NUMBER OF PERSONS EMPLOYED TO LIFE LOST.

During 1913	299
During 1914	813

The year 1914 has been one of turmoil and trouble in the mines of our State—all of the mines having been closed down on account of strike for a period of three months, and a number of them remaining closed for nine months.

We all know that when mines have been idle and resume work, the fatalities and accidents are more numerous than when mines are running regularly; and while it is a regrettable fact that 59 lives were lost during the year 1914, yet, the reduction of life lost was so great as compared with 1913 that it goes to show that operators, miners, and the Mining Department have all worked hand in hand and have kept continuously in their minds that—SAFETY IS THE FIRST CONSIDERATION.

Mine Superintendents, Mine Bosses, Miners' Committees and District Mine Inspectors are deserving of great credit for their good work, and we sincerely hope that the Year 1915 will clear away all of the labor troubles of our State, and that we will continue to work hand in hand and reduce the death rate in our mines to a minimum.

The greatest cause of accidents in and around the mines is principally due to lack of Discipline and failure to carry out the rules and instructions prescribed for safety.

We want to thank the operators of our State for their co-operation, and wish to say that there has not been a single instance where they have questioned or refused to carry out an order of this department.

Very truly yours,

J. M. ROAN,

Chief Deputy and Safety Commissioner of Mines.

NOTE: The following is a copy of a letter in response to the inquiry "What should be the proper length of a Mine Prop?"

THE INDUSTRIAL COMMISSION OF OHIO,
DIVISION OF MINES.
COLUMBUS.

MARCH 24, 1914.

DEAR SIRs: Following up our discussion as to the proper or approximate lengths of mine posts to be furnished miners, I have been asked some questions along the same line by some of the Miners' Officials; and while I have not in any way defined what the proper length of a post should be further than—a post should at all times be long enough to meet the conditions of the working place.

On my recent inspection through the mines, I found many places where the posts were too short, and in some instances there was a piece of timber laid on top of the post and then as high as three caps. The miner is only deceiving himself and endangering his life when he sets a post as described above. A post should always be long enough so that it will not require more than two wedge caps to set it, and preferably a single cap. Where timber is placed on top of the post, any pressure will kick the post out, and a man depending upon its safety would run a great risk of being caught.

We have some mines in the state of Ohio that the coal runs persistently the same height, and we have others where the roof rolls more or less, and it would be a very difficult proposition to decide the approximate length, further than—

they should be long enough to take care of the roof in safety and reach from solid bottom to within two or three inches of the roof. I mention solid bottom, as there are many places where the bottom is soft, and then the posts should be sunk to solid foundation.

Very truly yours,

J. M. ROAN,

Chief Deputy and Safety Commissioner of Mines.

NOTE: Resolution adopted by the Industrial Commission of Ohio relative to the filing of Oil and Gas Well Maps:

SAFETY FIRST CONSIDERATION

RESOLUTION.

WHEREAS, The Industrial Commission of Ohio is required by Section 21 of the law creating The Industrial Commission of Ohio (103 O. L., 100) to do all within its power to protect the life, health, safety and welfare of employes and to make places of employment reasonably safe; and

WHEREAS, In the efforts to make the mines of Ohio reasonably safe places of employment, The Industrial Commission of Ohio finds it necessary to have control over the drilling of oil wells, gas wells, elevator wells and test wells within the limits of any coal producing county of the State of Ohio;

Therefore, be it Resolved, That the Industrial Commission of Ohio shall require that any person, firm or corporation before drilling or causing to be drilled, any gas well, oil well, elevator well or any test well, within the limits of any coal producing county of the State of Ohio, shall first cause to be made an accurate map on a scale of one (1) inch to four hundred (400) feet, said map to show the location and number of the proposed well or wells. A copy of such map shall be filed with the Industrial Commission of Ohio ten (10) days before commencing to drill any oil, gas, elevator or test wells within the limits of any coal producing county of the State of Ohio; and, any person, firm or corporation that has already drilled or caused to be drilled or has possession of any gas, oil, elevator or test well, within the limits of any coal producing county of the State of Ohio, shall be required to file with The Industrial Commission of Ohio a map on a scale of one (1) inch to four hundred (400) feet, said map to show the location and number of wells drilled. Such map shall be filed with the Industrial Commission of Ohio within thirty (30) days after the passage of this resolution; and,

Be it further Resolved, That the Chief Deputy and Safety Commissioner of the Department of Inspection, Division of Mines, be instructed and authorized to carry out the provisions of this resolution.

Adopted by The Industrial Commission of Ohio, July 6, 1914.

NOTE: Circular letter addressed to operators regarding Oil and Gas Wells which might penetrate their coal mines.

SAFETY FIRST CONSIDERATION.

JULY 29TH, 1914.

To Mine Operators and Owners of Coal Property in the State of Ohio:

DEAR SIRs—Owing to the many dangers in mines brought about by the drilling of oil and gas wells, many of them being drilled without any consideration for

the operation of the mines, we felt that it was necessary for The Industrial Commission of Ohio to take some steps by which there could be a record obtained of the drilling of a well before a permit would be granted for said well to be drilled; hence—The Industrial Commission passed a resolution, a copy of which we are enclosing you.

To make sure of securing accurate data concerning wells going through coal measures, we would ask that whenever a well is being located on any part of your property you would immediately advise this office of same; and in case it should be located at a point where it will pass through any of the old workings, or projected workings of your mine, that you would advise us promptly your opinion in the matter as to what detriment it might be to the operations in the way of obstructing entries and rooms; and also as to the dangers that might accrue from same.

Hoping that you will be interested in this matter (as it is solely for the benefit of the coal interests) and keep us thoroughly advised, we are

Very truly yours,

J. M. ROAN,

Chief Deputy and Safety Commissioner of Mines.

NOTE: Circular letter addressed to Mine Managements relative to re-opening mines after a long suspension.

JULY 10, 1914.

To Mine Superintendents, Mine Bosses and Miners; and Those Who Work in and Around the Mines:

GENTLEMEN—It has been the sad experience of the past after there has been a suspension in the coal industry throughout the state for any length of time, and operations again resumed, that accidents and fatalities have very materially increased.

Realizing this, we feel it our duty to send out this circular of warning. Before any mine is put in operation, the mine management must see to it that all of the working places are thoroughly inspected, and that all lurking dangers must be removed, whether it be gas, black damp, loose slate or any other danger that might be encountered in a mine, before any miner is permitted to enter.

In mines where fans have been shut down, and mines have not been inspected daily, no one shall enter until the fan has been operated at least twenty-four hours.

Further, every mine boss will be expected to send in a report to this office at once of his inspection, giving the condition of the mine in general, and especially pointing out the entries and rooms where any gases or dampings or falls or dangers of any kind are found.

We would also recommend that companies employ a few extra foremen for a short time to patrol the working places, and keep close watch over the miners until they have again settled down to regular routine work.

All machinery, hoistings, fans, hoisting signals, in fact all of the mine equipment must be gone over and examined before being put in operation. All reports of mines must be sent into this office promptly before starting.

We feel that the owners and mine managements are as much interested in the prevention of accidents as the Mining Department could possibly be, and feel sure that this little warning will be taken seriously and in the spirit in which it is given, and that the above suggestions will be fully complied with.

Very truly yours,

J. M. ROAN,

Chief Deputy and Safety Commissioner, Division of Mines.

NOTE: The following is copy of circular letter addressed to the coal operators of the State bearing upon the installation of system of checking up Mine Inspector's Orders:

AUGUST 24, 1914.

To The Coal Operators and Mine Managements, State of Ohio:

DEAR SIR:—Upon the mines again resuming operation we are making preparations to install a system in our office of checking up all compliances with orders issued by the different Inspectors when making their inspections of the various mines coming under their jurisdiction.

In order to do this successfully it will require the fullest co-operation on the part of coal companies and mine managements, and we are writing you at this time with this object in view.

All coal companies will, in the future, as in the past, receive copies of inspections made of their mines by the Inspector in their district, only a time limit will be designated by the Inspector as to when the orders issued by him will be expected to be complied with, said time limit having been decided upon by the Inspector and the mine management at the time of the inspection.

We trust you will take these matters up with your mine managers as promptly as copies of these inspections are issued from this Department so that there may be as prompt action as possible in the carrying out of these orders.

We believe this system will be beneficial to all of the coal operators of the state, as well as of great assistance to our Inspectors in performing their field work.

Thanking you for your best assistance of our efforts in this direction, we remain,

Very truly yours,

J. M. ROAN,

Chief Deputy and Safety Commissioner of Mines.

NOTE: The following is copy of circular letter addressed to the Fire Bosses employed in the various mines of the state:

SEPTEMBER 15, 1914.

DEAR SIR:—Under separate cover we are forwarding you a fire boss' blank report book. This is for the purpose of making a daily report by the fire boss after his examination has been made, which is to be filled out in duplicate form, and copy mailed to the Deputy Mine Inspector, who in your district is..... of..... and who has charge of the inspection work in the field in which your mine is located.

The Mining Department is very desirous of keeping in touch with all of the mines of the state, and especially those generating fire damp. We feel that this will be beneficial to the operators, as the reports will show pretty clearly the attention and efficiency of your fire boss. At the end of each month the Deputy Mine Inspector will forward these fire bosses' reports he receives to this office, and same will be checked up in this Department and attention called to any thing or practice which we felt could be improved. Additional copies of this book can be secured at any time by addressing this office.

Asking your co-operation in this matter, we remain,

Very truly yours,

J. M. ROAN,

Chief Deputy and Safety Commissioner of Mines.

NOVEMBER 14, 1914.

To Operators, General Managers, Superintendents, Mine Bosses and Mine Foremen:

As cold weather is near at hand, I feel it my duty to call your attention to the dangers that come with it.

We all know that the cold air entering a mine carries with it — a great danger. It absorbs the moisture from the mine workings — and the result is — that it leaves a dry dust which is very dangerous.

This dust is picked up by the air current which becomes thoroughly saturated with same, and in case of a slight explosion of gas, premature explosion of powder or blown out shot, the substance is furnished for the most dangerous and vicious explosion known in mines.

Wherever possible, we would recommend that the air be heated to, at least, forty to forty-five degrees and sufficient moisture added to the air entering the mine to prevent the absorption of the moisture in the mine. This also is a warning, especially to Mine Bosses and Mine foremen who are familiar with the dusty portions of their mine, to see to it that the dust is wet down and kept moist, especially during the winter months. Each Mine Boss knows his local condition and can figure out the best method for moistening the dust at his individual mine with the least expense.

On account of the local conditions, I hesitate to suggest methods, but only hope that all will be interested in this, so that we will all feel, in case of a disaster — that we have done our part.

Very truly yours,

J. M. ROAN,
Chief Deputy and Safety Commissioner of Mines.

DECEMBER 29, 1914.

To All Deputy Mine Inspectors, State of Ohio:

DEAR SIR: — In regard to blankets, stretchers and outfits to be kept on the inside of the mine, when the law was presented to the Legislature for the employing of Safety Foremen, it was intended that there be an outfit for every thirty-five men, but that law having failed to pass and the law which called for stretcher outfits on the inside having passed, and not taking into consideration the practical side and why the law which failed called for stretchers for every thirty-five men, as it was intended that each Safety Foreman have his own outfit.

All that I feel that is necessary, is two or three outfits on the inside of the main haulage switch kept in a break-through or room fixed up for that purpose and heated with an electric stove or resistance. Electric stoves are very inexpensive and only cost from \$7.00 to \$8.00 and keep the room in fine condition.

So I do not believe it would be advisable to enforce the law calling for outfits for every thirty-five men under the present arrangements of operations around mines.

Hoping this will meet with your approval, and that you will advise whether or not you think my opinion is correct, I am,

Very truly yours,

J. M. ROAN,
Chief Deputy and Safety Commissioner of Mines.

"SPECIAL REQUIREMENTS AND SPECIAL BULLETINS."

SOLID SHOOTING.

During January, 1914, Section 976 of the General Code was amended for the purpose of regulating and prohibiting the method of mining coal known as Shooting off the Solid, and the following list of questions was prepared to carry out the purpose and intent of this amended section. If these questions were answered in a satisfactory manner, a permit was granted the coal company making the request for mining coal by this method, with the observation of the following rules:

SAFETY FIRST CONSIDERATION.

JUNE 30, 1914.

In order for the Industrial Commission of Ohio, Department of Inspection, Division of Mines, to issue a permit for the System of Mining known as "Shooting off the Solid", it will be necessary for Coal Companies to answer in full the following list of questions:

1. State why it is necessary to shoot coal off the solid in your mine.
.....
.....
.....
2. State whether the coal is sheared either in center or rib.
.....
3. The amount of powder used in each shot.
.....
4. Size of bit used in drilling hole.
.....
5. If reamer is used.
.....
6. If any dynamite is used—with powder, or separately.
.....
7. Is there any cutting whatever done? In other words, is the coal partly under-
mined and partly shot off the solid, and is any of it shot over a heel?
.....
.....
8. How are shots fired? Is there any interval between a certain number of shots,
and if so, how much time is given between the second set and the first set of
shots fired or, do they start and fire at random all along the entry at the same
time? ;
.....
.....
.....

9. Are squibs and fuse both used? If so, do miners fire first hole with squib and light fuse on second hole where two shots are fired in the same working place?
-
-
-

Any further information as to the local condition of your mine will be appreciated.

(Signed).....

SAFETY FIRST CONSIDERATION.

A PERMIT WITH RULES, UNDER WHICH, WHAT IS KNOWN AS "SOLID SHOOTING," CAN BE DONE IN YOUR MINES.

DEAR SIRs:

In answer to your request for a permit to do "solid shooting" in your mine, we wish to say that solid shooting in any form is a very dangerous practice and should be avoided wherever possible.

The term "solid shooting" means—any shot that is fired in any working place where the coal is not under-cut. What is known as shearing rib on the center, has no effect on the term—"solid shooting" and where coal is partly under-cut and the hole is placed a greater depth than the under-cutting or under-mining is also—"solid shooting". A hole that is drilled on the rib of a room or entry, and is not cleared by under-cutting, but leads to the rib, would be termed—"solid shooting" (and is one of the most dangerous).

The following rules must be observed in your mine:

1. It is very difficult to give the size of shot that can be handled with one charge of powder on account of local conditions being so different, and it becomes necessary to limit the amount of powder and the miner will be governed accordingly. There can be no more than.....pounds of powder used in any one shot and.....pounds is the limit where coal is partly under-cut or shot over a heel.

2. No bit shall be used with a greater spread than.....inches.

3. Shots must be fired in rotation. This means that you start and fire five shots in five separate working places, one after the other, that the igniting of more than one shot at a time in any one working place is absolutely prohibited. When five shots are fired, there must be an interval of five minutes before the firing of the second five shots, and so on, until all of the shots in the mine are fired.

4. What is known to the practical miner as an opening shot on the solid, where deep holes are drilled and large charges of powder used for making such shot—is strictly prohibited.

5. In all mines employing more than fifteen men, all firing of shots must be done after quitting time.

6. No more than fifty men will be permitted to work on any one air split in a mine where "Solid Shooting" is permitted.

7. Dynamite is strictly prohibited in "solid shooting" of coal.

8. Where permit for "solid shooting" is granted, should the applicant feel that any of the foregoing rules are not applicable to his mine on account of some local condition, or nature of coal, the Industrial Commission of Ohio will hold itself in readiness to hear arguments as to why there should be any change and if arguments are considered valid, such local changes will be made as they deem advisable, keeping in mind that—SAFETY IS THE FIRST CONSIDERATION.

9. It is the duty of Mine Managements, (and they will be held responsible), to see that these rules are carried out and that the limit on the amount of powder is not exceeded and where coal is partly under-cut, to see that it is reduced to the minimum. ;

Very truly yours,

J. M. ROAN,

Chief Deputy and Safety Commissioner of Mines.

SAFETY FIRST CONSIDERATION.

PETITION FOR "SOLID SHOOTING".

....., Ohio.

The Industrial Commission of Ohio, Columbus, Ohio.

DEAR SIR:

We,,
Ohio, hereby present in petition form, application for permission to engage in the
System of Mining known as "SHOOTING OFF THE SOLID."

This petition represents the name of our company and the majority of miners employed in our.....Mine, as required by Section 976-2 of the Mining Laws of Ohio.

A blank ledger page with a vertical center line and horizontal dotted lines for writing. The page is divided into two equal columns by a solid vertical line. Horizontal dotted lines run across the entire page, creating rows for text entry. The top of the page has a header section with a solid line above it and a solid line below it. The rest of the page is filled with horizontal dotted lines.

NOTE: Section 961 of the General Code regulates the manner in which Rope and Mule haulage trips shall be run. In accordance with the provisions of this section the following form of mutual agreement between miners and operators was prepared by the Department.

SAFETY FIRST CONSIDERATION.

MUTUAL AGREEMENT BETWEEN.....RELATING TO THE USE OF MOTOR AND ROPE HAULAGE FOR THE PURPOSE OF HAULING MEN TO AND FROM WORK.

In consideration of.....having granted the request of the miners of.....that they be permitted to ride in empty cars of special trip made up for the purpose of hauling men in and out of the mines by Motor or Rope haulage in the morning and from their work in the afternoon, we, the undersigned miners employed at.....together with the.....have signed this mutual agreement as required by Section 961 of the Codified Mining Laws of Ohio. The agreement is as follows:

1. The company shall permit the miners to ride to work in empty cars of Motor or Rope trip before starting time in the morning, and out of the mine after quitting time in the afternoon, unless prevented by circumstances over which the company has no control.

2. In the morning the men shall be permitted to ride in the cars of Motor or Rope trip only as far as the switch made by the Motor or Rope on their regular trip.

3. Each Motorman or Rope Rider shall start with his trip early enough in the morning to allow the miners who ride in the trip sufficient time to reach their usual working places by the regular starting time, and no Motor or Rope Rider shall start out of the mine with his trip with miners in the afternoon, until after the quitting time of the mine.

4. In riding in and out of the mine, it is understood that the trips are in the custody of the men, and that each man will be responsible for any damage resulting from his own negligence in the use of said trips and shall be disciplined as specified in Paragraph thirteen (13).

5. The Motorman or Rope Rider shall have charge of the trip and no man on the trip shall in any manner interfere with either the Motorman or Rope Rider, Motor or Rope.

6. Any one riding man trips must get in and out of the car on the further side from the trolley wire.

7. No one is allowed to climb on or off of man trip while in motion.

8. Trip containing men as herein provided shall not be hauled at a greater speed than eight miles per hour.

9. No miner shall carry powder while riding in or out on the cars.

10. The number of men permitted in any one car shall be governed as follows: Where trolley wire is of sufficient height to clear miner's head in sitting down at all points, as many men can ride as can be comfortably seated on both sides of the car. Where trolley wire is low, men must ride on opposite sides of the car from trolley wire. No miner permitted to ride on front end, rear end or between cars. All must be seated.

11. No extra cars shall be run while hauling the miners, and the riding provided in this agreement shall not interfere with any miner walking to or from his work.

12. There shall be no reckless or careless handling of trips, and no so-called running switches made with men trips.

13. In case of violation of this agreement, the violation shall be reported to the Committee, and in event of the second violation by the same person, he shall be disciplined by the Superintendent and the Mine Committee.

14. It is understood and agreed that the hauling of the miners to and from work, as provided in this agreement, shall in no way interfere with the eight-hour day as provided by contract.

15. No miner, or other employe, shall be permitted to ride, as provided in this contract, until the agreement is signed.

16. It is understood that this agreement in no manner restricts or changes the provision of the Ohio Compensation Laws with respect to employes who are injured in their work.

17. This agreement can be terminated at any time by either party.

18. All Rope or Motor Trip Riders must see that their trips are properly coupled before starting with trips of men either in or out of the mine.

.....

 Approved:

J. M. ROAN,
 Chief Deputy and Safety Commissioner of Mines.

SAFETY FIRST CONSIDERATION.

MUTUAL AGREEMENT BETWEEN.....
RELATING TO THE USE OF MULES AND
 CARS FOR THE PURPOSE OF HAULING THE MEN TO AND FROM WORK.

In consideration of.....
 having granted the request of the miners of.....that
 they be permitted to ride to work in empty cars with the drivers in the morning,
 and from their work in the afternoon, we, the undersigned miners employed at
together with the.....
 have signed this mutual agreement as required by Section 961 of the Codified
 Mining Laws of Ohio. The agreement is as follows:

1. The company shall permit the miners to ride to work in empty cars with the drivers before starting time in the morning, and out of the mine after quitting time in the afternoon, unless prevented by circumstances over which the company has no control.

2. In the morning the men will be permitted to ride in the cars with the drivers only as far as the switch where trips are made up.

3. Each driver shall start with his car early enough in the morning to allow the miners who ride in the car sufficient time to reach their usual working places by the regular starting time, and no driver shall start out of the mine in his car with miners in the afternoon, until after the quitting time of the mine.

4. In riding in and out of the mine, it is understood that the mules and cars are in the custody of the men, and that each man will be responsible for any damage resulting from his own negligence in the use of mules and cars, and shall be disciplined as specified in Paragraph 11 herein.

5. The driver shall have charge of the mule trip, and no man on the trip shall in any manner interfere with either the mule or driver.

6. No car containing men as herein provided, shall be hauled at a greater speed than four miles per hour.

7. No miner shall carry powder while riding in or out on the cars.

8. The number of men permitted in any one car shall not exceed eight besides the driver.

9. No extra cars shall be run while hauling the miners and the riding provided in this agreement shall not interfere with any miner walking to or from his work.

10. There shall be no reckless or careless driving.

11. In case of violation of this agreement, the violation shall be reported to the Committee, and in event of the second violation by the same person, he shall be disciplined by the Superintendent and the Mine Committee.

12. It is understood that the hauling of the miners to and from work, as provided in this agreement, shall in no way interfere with the eight-hour day as provided by contract.

13. No miner shall be permitted to ride as provided in this agreement until the agreement is signed.

14. It is understood that this agreement in no manner restricts or changes the provision of the Ohio Compensation Laws with respect to employees who are injured in their work.

15. This agreement can be terminated at any time by either party.

.....

.....

.....

Approved:

J. M. ROAN,

Chief Deputy and Safety Commissioner of Mines.

ACCIDENTS

Number of Accidents.

Accidents by Counties.

Accounts of Fatal Accidents for the Year.

(505)

ACCIDENTS.

For the calendar year ending December 31, 1914, sixty-one (61) fatal accidents in coal mines were reported to the Division of Mines, as compared with one hundred and sixty-one fatalities during the year 1914. Three of the sixty-one fatal accidents occurred during the months of October, November and December, 1913, and terminated fatally in the months of January and February, 1914. The long suspension of a large number of mines during the year 1913, tended to decrease the number of fatal accidents to a great extent. However, on the basis of an estimated tonnage of 18,500,000 tons, there was mined to the life lost 298,387 tons of coal, as compared to 162 fatalities during the year 1914, when 233,984 tons of coal were mined to the life lost. During the year 1913 there were 299 persons employed to the life lost while during the year 1914, 813 persons were employed to the life lost.

The year 1914, was one of turmoil and trouble, all of the mines having been closed down on account of a strike for a period of three months, and others for a much longer period. When there has been a long suspension fatal and serious accidents are more liable to occur, and the accident list is always much greater, yet the reduction of life was so great as compared with the year 1913, that it demonstrates the fact that operators, miners, and the Mining Department have co-operated together, and that they have kept continuously in their minds that — SAFETY IS THE FIRST CONSIDERATION.

Mine superintendents, mine bosses, miners' committees and Deputy Mine Inspectors are also deserving of great credit for the splendid work done, and it is to be hoped that the year 1915, will see all labor trouble of our state settled satisfactorily to all concerned, and that the good work will continue and all will put forth their best efforts with the object in view of reducing the number of fatal and serious accidents, and that the death rate will be reduced to a minimum.

In connection with the subject of fatal accidents it is also gratifying to report that the operators of the state have always co-operated with this Department in carrying out any suggestions made by our Inspectors which were given for the purpose of protecting the health and lives of those employed in the mines.

In making analyses of the causes of fatal accidents reported to this Department, and the circumstances surrounding them, it appears that practically three-fourths of them are preventable. For this reason a campaign of Safety First was inaugurated by publishing monthly a

bulletin in which a synopsis was made of all fatal accidents reported, and suggestions made as to in what manner these accidents might have been prevented. Owing to the long suspension the practicability of this accident prevention has not been fully demonstrated, but we are firmly convinced that it will have an influence and a bearing in reducing the number of fatalities in the state.

Causes.

Falls of roof and coal were accountable for 44 deaths during the year; mine cars, 7; motors, 3; explosions of gas, 1; explosions of powder, 1; electricity, 1; mining machine, 1; and miscellaneous, 3. During the month of January 9 fatal accidents were reported; February, 9; March, 11; beginning with April 1st, 1914, when the suspension took place, 5 fatalities were reported; May, 1; June, 2; July, 1; August, 2; September, 1; October, 9; November, 8 and December, 3.

Counties.

The greatest number of fatal accidents were reported from Belmont County, which for a period of three months reported 17 fatal accidents; Jefferson County for the same period reported 8. The mines of these two counties were closed for the remainder of the year, due to the suspension. Guernsey County reported for the year 9 fatal accidents; however, three of these accidents occurred in the months of October, November, and December, 1913, and terminated fatally in January and February, 1915. Jackson County reported 6, Meigs 5, Perry 5, and Stark County 4 fatal accidents.

FATAL ACCIDENTS REPORTED IN COAL MINES OF OHIO, ASCRIBED TO CERTAIN SPECIFIED CAUSES FOR THE YEAR ENDING DEC. 31, 1914. BY COUNTIES.

County.	Number of Accidents Ascribed To.									Total All Causes.
	Falls of Roof.	Falls of Coal.	Mine Cars.	Mining Machines.	Motors.	Electricity.	Explosions.	Explosions of Gas.	Miscellaneous.	
Athens	1								1	2
Belmont	10	1	2		1	1		1	1	17
Carroll										
Columbiana										
Coshocton										
Gallia										
Guernsey	6	2			1					9
Harrison	1									1
Hocking	1									1
Holmes										
Jackson	5								1	6
Jefferson	6		2							8
Lawrence										
Mahoning										
Medina										
Meigs	3		1		1					5
Morgan										
Muskingum										
Noble										
Perry	3		2							5
Portage	1									1
Scioto										
Stark	1	1		1			1			4
Summit										
Trumbull										
Tuscarawas	1									1
Vinton	1									1
Washington										
Wayne										
Total.....	40	4	7	1	3	1	1	1	3	61

^a Including three accidents occurring in the year 1913 and terminating fatally in the year 1914.

TABLE SHOWING PERCENTAGE OF EACH CAUSE TO WHICH FATAL ACCIDENTS WERE ATTRIBUTABLE.

	1913 %	1914 %
Falls of Roof.....	55.5	64.6
Falls of Coal.....	1.3	6.5
Mine Cars	17.3	11.3
Motors	2.6	4.9
Mining Machines	1.3	1.6
Explosions — Gas	9.0	1.6
Premature Explosions	3.1	3.2
Electricity	5.6	1.6
Miscellaneous	4.3	4.9

FATAL ACCIDENTS FOR THE YEAR 1914 BY MONTHS.

Counties.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Athens								1				1	2
Belmont	6	3	6	1		1							17
Harrison		1											1
Hocking				1									1
Guernsey	*2	*1		2						3		1	9
Jackson		1								1	4		6
Jefferson	1	2	2				1			2			8
Meigs			1		1	1			1		1		5
Perry		1								2	1	1	5
Portage				1									1
Stark			2							1	1		4
Tuscarawas											1		1
Vinton								1					1
Total.....	9	9	11	5	1	2	1	2	1	9	8	3	61

* Accidents occurring in October, November and December, 1913, and terminating fatally in January and February, 1914.

**ACCOUNTS OF THIRTY-SEVEN FATAL
ACCIDENTS NOT INCLUDED IN
THE SPECIAL ACCIDENT
BULLETINS**

(511)

**ACCOUNTS OF THIRTY-SEVEN FATAL ACCIDENTS NOT
INCLUDED IN SPECIAL ACCIDENT BULLETINS, OC-
CURRING IN THE COAL AND CLAY MINES OF THE
STATE OF OHIO DURING THE YEAR ENDING
DECEMBER 31, 1914.**

ATHENS COUNTY.

MISCELLANEOUS.

Inj. August 17, died August 24.—H. J. Ley, French, coal trimmer, 59 yrs., Sunday Creek No. 254 mine; deceased was trimming coal on the south side of mine, car being about half loaded, when another trimmer on the brake dropped the car further down on the scales in order to finish loading the car. Ley was standing on what is called the running board cribbing the side of the car, when he was caught between the car and timbers of the tipple which was about 8 inches from the railroad car. This squeezed him while the car was being dropped down.

FALL STONE.

December 23.—Carl DeBow, American, driver, 21 years, New Pittsburgh No. 9 mine; killed by fall stone while shoveling some coal into a car in No. 7 room, 12 W. entry, a piece of stone fell and killed him almost instantly. The two men working in this room had tried to pull this stone down a short time before but failed. The car was not quite loaded and he proceeded to help finish loading it. This room had been driven narrow for about 30 ft. on account of soapstone top and was in about 200 ft. from entry; mine had been idle from December 7, to the date of accident.

BELMONT COUNTY.

EXPLOSION OF GAS.

January 27 — Frank Hora, Bohemian, driver, 33, Wheeling Creek No. 2 mine; killed by an explosion of gas in 22nd W. entry. He had pulled the car of coal out of 1 and 2 N. dip entries, and then proceeded by himself into 22 W. E., which was not working; for what purpose was not known; from some unknown cause an explosion occurred, causing his death; his body was found on 22 W. entry. 250 ft. from 2 North dip entry, and 395 ft. from face of No. 22 W. entry. The point where the

explosion seemed to have occurred was 230 ft. from face of 22nd. west entry and 165 ft. inside from where the body was found.

NOT A MINE ACCIDENT.

January 24, died February 1—Joe Melock, Pole, laborer, 27 yrs. Webb mine. Injured while unloading some pipe from a railroad car, and worked until January 27th, when he complained of his side and was removed to a hospital, where he died from acute appendicitis on February 1st.

NOT A MINE ACCIDENT.

aMrch 18—Pete Haradish, Russian, miner, 30 yrs., Blaine mine; deceased was employed in room No. 18, on 13 west entry and had been in ill health for a year or more. On March 18th he resumed work after an illness of two weeks, and was stricken with a hemorrhage and died shortly afterwards. His working place was in good condition.

FALL SLATE.

March 30, Kalam Patasky, Hungarian, Miner, 38 yrs., Provident No. 1 mine, killed by fall of drawslate in room No. 15, on 8 left butt off 1 N. E. face; about one car of coal remained on the right hand corner of the room, and the drawslate on the right side of room was up, and two posts under it. While shoveling coal under the drawslate between two outer posts and face of room, there was a blind slip in the drawslate from near the outer edge along close to the inside post and to the face; the drawslate let loose from the slip along the face swung the outer post outward and fell, on deceased, causing his death; the piece of slate measured 8 ft. 6 in. x 3 ft. 3 in. x 12 in.

FALL ROOF.

January 16th—died April 15th, 1914. Emilio Morello, Italian, loader, Rail & River No. 2 mine. Owing to the fact that this accident occurred three months previous to its resulting fatally, it was impossible to make an examination of the room owing to its having fallen in. The accident occurred in No. 16 room on 7 W. entry the mine boss stated that the room was above the average and had a thin stone roof. The piece that struck deceased was not large and it was thought he was recovering from the accident, as he was able to be up and around within a day or so before he died.

MISCELLANEOUS.

June 2—Edw. Neviel, American, mechanic, 33 yrs. Webb mine; deceased was employed as a mechanical helper at the time of the accident

and was working under instructions of Jno. Bannan, wiring up the new steel tippie. No one was present at the time of the accident but it appears as if he had gotten down onto the floor and started to move the ladder on which he had been standing and in some way stepped back into the open space in the floor and fell a distance of 38 ft. to the Railroad tracks below. Had these open spaces been covered until the scales and screens had been placed this accident would have not occurred.

GUERNSEY COUNTY.

FALL SLATE.

Inj. October 15, 1913, died January 8, 1914, W. C. Basford, American, miner, 32 yrs., Black Top mine. Injured by fall slate in room No. 11 on No. 26 W. entry; room was in 222 ft. from entry and was 23 ft. wide and 30 ft. from last break through to place of accident; the room was well posted, and this appears to have been an unforeseen accident.

FALL SLATE.

Inj. November 22, 1913, died January 13, 1914— Andy Greitz, Slav, miner, 32 yrs., Forsythe mine. Injured by a fall of slate on No. 33 surface west entry at face of working place, No. 4 room neck. The piece of slate which fell and caused his death was 7 ft. long, 3 ft. wide and from 2 to 3 in. thick. This accident could doubtless have been avoided had the slate been taken down or two posts set as the miners are aware that the drawslate comes down in that part of this mine.

FALL COAL.

Inj. March 25, died April 6, Chas. C. Frield, American, miner, 22, Black Top mine. Injured by fall of coal in 25 East entry, in room No. 18 which was driven 234 ft. from the entry, and was 25 ft. wide; center shot had been fired the day prior to the accident. On the morning of the accident one car of coal had been loaded from this shot. It appears deceased and partner were engaged working down this shot when the coal fell and Frield sustained injuries from which he died April 6, 1914. Surroundings indicate that this accident could have been avoided had good judgment been exercised, as the conditions under which they were working, were plain to be seen. These miners appear to have been practical men.

FALL SLATE.

April 30, Chas Maruzik, Slav, slate-man, 37 yrs., Black Top mine. Instantly killed on main south entry 121 ft. south of No. 28 W. entry by fall slate while engaged in knocking out a post (which was sup-

porting the slate) with a sledge. Circumstances point to the fact that poor judgment was used in performing this work without first putting in a temporary post to hold the slate, as it is a well-known fact at the mine that when the slate falls it falls high. This work was being done under the supervision of the mine management and these men performing it should not have been permitted to do so without every precaution having first been taken.

FALL SLATE.

October 1, Irville R. Touvelle, American, miner, 16 yrs., Black Top mine. Killed by fall slate. and at the time of the accident was working with his father and twin brother in rooms 27 and 28 on 26 S. E. entry; the father was loading a car in room 27 and his two sons were loading a car in 28 room. The father had visited this room prior to the loading of his car as these boys were under his care; he was a very good and practical miner and the rooms were well posted from entry to face of rooms. These boys had almost finished loading their car when the slate fell without warning. The slate that fell was 9 x 12 and was 6 in. thick, and had a slip in it 2 ft. 8 in. from the face of the room. The top was good above this slate and the slip was invisible to the eye.

FALL COAL.

October 26, Wm. M. Rainey, American, machine man, 33 yrs., Harryette mine; killed by fall coal while he and his partner were cutting coal in room No. 6 on main entry; the work was almost completed when without warning a slab of coal fell at the heaviest point. This was caused by a powder crack which had perhaps been drilled on the solid; conditions point to the fact that the loaders in this room had been negligent in the matter of making their place safe for cutting. It may have been that the machine men might have detected this loose coal by examining it closely, which as a matter of precaution, should always be done. It is the duty of loaders to see that their shots are properly prepared and fired.

FALL SLATE.

December 23, Jno. Semko, Slav, miner, 22 yrs., Murray Hill No. 2 mine. Killed by fall slate in No. 3 west entry off main east entry; one cut had been loaded out of this entry above No. 1 room neck which was a distance of 44 ft. from the upper side of No. 1 room neck leaving a stump between No. 1 and 2 rooms of 10 ft. the second cut having been made the same as the No. 1 cut. While drilling at the end of cut No. 1 room neck, the slate fell without warning, killing deceased. The circumstances surrounding this accident, and the manner in which the entry was driven indicated that there was some negligence on part of the deceased as he was a practical miner.

HARRISON COUNTY.

FALL STONE.

February 10, Chas. Cunningham, American, miner, 45 yrs., Keesey mine. Killed by fall stone in a small country mine. Deceased and partner (both colored) were mining coal and according to J. L. Keesey, owner of the mine, were supposed to look after their own safety. No one was present when the accident happened as he was found dead under a large stone. An examination of the place developed the roof to be full of seams and crevices as a sand rock roof is considered a good roof and a space of 6 ft. between post and face of coal is not deemed dangerous, and this accident, therefore, seems to have been accidental.

HOCKING COUNTY.

FALL ROOF.

April 28, T. G. McAllister, American, driver, 57 yrs., Black Diamond Mine No. 2. Employed as a driver in this mine which was practically worked out and consisted of crop line; a place had been started off the crop line entry and they had intended to make a switch to hold the cars; the roof became so bad this plan was abandoned, and the place was narrowed down and was being driven ahead; a parting had been laid at the mouth of this place and was used for switching empty ears. A row of posts had been set between the two tracks; deceased while driving and changing cars pulled out of the working place and stopped beside the post when without any warning the roof gave way, tripped all four posts causing death of deceased. The roof at this place was of a soapstone formation and in places of this kind should always be cross-timbered.

JACKSON COUNTY.

NOT A MINE ACCIDENT.

October 26, Ammon Coffman, American, miner, 57, Grace mine; deceased and son worked in No. 1 room, 1st W. entry on No. 2 south. Before coming to the mine on the morning of October 26th he complained of severe pain on right side of breast. He assisted his son to load two cars of coal; shortly afterward he became seriously ill and died on the pass-way while being removed from the mine. Death was due to natural causes.

FALL ROOF.

November 21, Frank Stiffler, American, day-hand, 54 yrs., Harper mine. Killed by fall roof on No. 2 E. S. which is a gob entry on which

the entry pillars were being robbed. Deceased and day hand, and mine foreman who were in charge of the work were opening up a space 7 ft. wide for the purpose of necking a room in the back pillar; all the slate had been removed and three props set under the roof for support when a portion of the roof fell and caught deceased causing injuries which resulted fatally ten minutes later.

FALL ROOF.

November 28, Frank Goodrich, American, miner, 21, Goodrich mine. Killed by fall roof while drawing a room pillar having opened a space 10 ft. wide through the pillar which was 5 ft. thick. He and his brother had left a stump on the end of the pillar for protection and set one prop under the roof for support. This support may have held the roof but a slip close to the stump caused it to break loose without warning.

JEFFERSON COUNTY.

FALL CLAY.

February 21, Wm. D. Teneyck, American, fireclay miner, 32 yrs., Stratton F. C. Mine, killed by a shot exploding. Deceased had prepared two shots one of them being a shorter hole than the other, and probably was provided with a shorter fuse. Both fuses were ignited by deceased, and as was to be expected the short fuse exploded first; he waited but a very short time and remarked to his partner that he believed the other fuse had been extinguished and went back to the first shot to re-light it, and had nearly reached the place when it exploded, the flying material injuring him so he died an hour later.

EXPLOSION POWDER.

April 23, Joshua Sempter, American, Fire Clay miner, 45 yrs, American S. P. Clay mine. Deceased met death while tamping a hole containing 10 cartridges (5 lbs.) of Hercules Powder, E. L. F., 40% strength; the hole was tamped entirely with clay, a copper needle being used to preserve an opening to the charge for the purpose of ignition. Deceased had crimped a detonator on the end of a coil of fuse with the intention of inserting it in the hole after the needle was withdrawn. No one witnessed the accident when it occurred but judging from the condition of the body and the direction in which it was blown, he was evidently in the act of twisting the needle to loosen it when the charge exploded killing him instantly, and injuring the driver; assuming there was no detonator in the hole (and it is presumed there was not), it is possible that the explosive material had been absorbed by the wrapper on the cartridge and had become concentrated in contact with the needle.

As these explosives are sensitive to shocks or friction it is possible the charge was exploded by the friction produced by the twisting of the needle.

FALL SLATE.

June 29. died July 19, 1914, John Underwood, American, miner, Goucher No. 2 mine, 61 yrs. Injured by a fall of slate in room No. 4, off short face entries, while loading out butt cutts with stone hanging overhead. Deceased was found in this room by two other miners after the accident occurred, he was sitting on the floor, his leg fractured and his head cut above the eye. It was stated the stone knocked him over against the shovel causing the injury. This room was close to the crop and after three more cuts were taken out it fell in and is now abandoned. This condition naturally caused the roof to be tender.

FALL ROOF.

October 10, Jno. Gallagher, American, mine boss, 55 yrs., Walnut Hill mine. Deceased was employed as mine boss at this time, and on the day of the accident was walking through the entry, and noticed a timber under which the post was leaning and not setting straight. He picked up a 40-lb. iron rail and started to drive the timber and post in order to have them straight. While so doing the roof and timbers gave way causing his death. On the day of the accident men were engaged cleaning falls and timbering.

LAWRENCE COUNTY.

FALL ROOF.

(Not an employe.)

November 10, George Rawlins, American, not an employe, 15 yrs. old, Nelson mine. Killed by being caught under a fall of roof at the face of the workings which were advanced 150 ft. from the surface at the time of the accident. His father who was operating the mine, was laying track 15 ft. back. He heard the roof breaking and called to his son to go up against the face; the boy evidently did not move as he was found under the fall near the point where he was before the roof broke.

MEIGS COUNTY.

MINE CARS.

May 5, Ellsworth Hayman, American, driver, 19 yrs., Rolling Mill mine. Employed as a driver and was coming out of 4th west entry, with a two-car trip; he stopped his trip as was his usual custom be-

tween No. 1 room and the trap door at the mouth of the entry and called to the trapper if it was all right for him to come on out or not. The trapper opened the door and told him to come ahead. He says he heard the trip start, and then start again; on going to see why the trip did not come on he met a loader coming from room No. 1 and said Hayman was under the trip. Indications point to the fact that he attempted to step on the front end of the trip and fell under. Drivers had been warned by the Inspector to guard against riding the front end of trips.

FALL ROOF.

June 19, Samuel Mills, American, miner, 30 yrs., Forest Run mine. This is a new mine the entry being driven 75 ft. from the bottom. The accident occurred at the face of this entry, and was due to a fall of roof caused from a slip which could not be detected. A shot had been fired in the right side of the place. The mine boss stated that they examined the roof before they undertook to do any work and commenced to mine over the shot next to the stone. Deceased remarked to the mine boss, "Let me do some cutting." The mine boss stepped back from under the stone, when it fell killing deceased instantly.

FALL ROOF.

Injured September 11th, died September 13th, Clarence Swanger, American, miner, 42 yrs., Essex mine. This was a new mine just being opened up and only two places had been driven. Deceased and partner were working in one of the entries, the places being driven only 16 ft. from the outside. The entry had been cross-timbered to within 5 or 6 ft. of the face. The place had been cleaned up and they were getting ready for the machine to come in and cut it again. They had been leaving about 6 in. of top coal up for roof. Mr. Swanger was digging at the top coal and must have loosened it enough so that the heavy soapstone above suddenly dropped through on him.

NOT A MINE ACCIDENT.

October 19, Arthur Roush, American, miner, 47 yrs., Charter Oak mine. Employed as a loader; he and his partner had received an empty car and shortly afterwards he started to load it. While shoveling he suddenly dropped to the floor of the room and died before he could be removed to the outside. He had been subject to heart trouble for several years.

PERRY COUNTY.

FALL COAL.

Injured September 12th, died September 26th, Geo. Cook, American miner, 70 yrs. Hazelton mine. Deceased was in the act of shearing a standing shot in the 2nd west cut-off. His partner wanted to drill for the purpose of doing some shearing and thought he could weaken it with a pick, and was in the act of striking again when he saw the coal start to fall. He then put the pick against the coal to push it away from him, when the coal forced the pick handle against his leg causing a bad wound, which later developed into blood poisoning, causing death.

COAL AND SLATE.

October 15th, Died October 16th, Jno. Kochensparger, American, miner, 56 yrs. James mine. Deceased was one of an operating company and was engaged drawing entry pillars between main and blind east entries, from the present opening. Deceased had shot one hole at dinner time and after dinner went back to see how much slate had fallen. After looking the place over they decided to abandon the place. It appears deceased went back into this place to take down a loose piece of coal which was hanging on the rib, which he had been warned not to do. When the foreman heard the fall and ran to the deceased he found the coal and slate down; he was not covered by the fall but had in all probability been struck by it.

MINE CARS.

October 21st, Herman Eppley, American, driver, 23 yrs, Rend mine. Killed by being run over by the front end of the trip of two cars at the jaws of No. 4 room No. 4 south entry. No one witnessed the accident, but it appeared as if he had attempted to reach the front end of his trip, after raising his brakes in order to keep his pony in motion to make the grade which started at No. 3 room. His lamp was found some 30 or 40 feet back from where the body was found, and there being no signs of his having been dragged indicated that he was in the dark when the accident happened. He was considered one of the best and most careful of drivers in the mine.

FALL COAL.

November 18th, Edwin F. Cochran, American, machine helper, 36 yrs., C. & E. mine. Killed by a fall of coal while helping to operate a mining machine cutting room No. 12 on 1st S. W. entry. Room was 80 ft. deep; a clay vein had been struck in the coal at about 2 ft. in each room; had started and cut 2 ft. on the third run; Cochran had

tightened the front jack of the machine, and was in the act of getting away from the front end of the machine when a slab of coal fell causing his death.

FALL COAL.

Injured November 14th, died December 5th. Jno. T. Duffy, American. Miner, 72 yrs. Central No. 3 mine. Injured while loading a car at the face of No. 10 room on 26 W. entry. This room was working close to the crop line and was full of seams; the room had been cut, and the bottom bench partly loaded out; the top bench had not been shot. The face of the coal did not show any signs of being loose, but the powder from the last shot must have weakened the seam leaving the danger invisible. However, the coal did not fall on the deceased but fell and rolled over on him. Both legs and three ribs were broken. This accident resulted fatally December 5, 1914.

STARK COUNTY.

FALL COAL.

October 17th, Jno. Kirk, English, miner, 56 yrs., Elm Run No. 12 mine. Killed by a fall of coal while working with his son in No. 10 room off 1st east butt entry. Both father and son had finished loading a car of coal, the father going to the right side of the room to get down a piece of coal, and while undermining it a piece of coal weighing about 800 lbs. fell crushing him and killing him instantly. It appears there was some negligence on the part of deceased in getting down in front of the coal to take out the heel with a pick knowing the chunk was surrounded.

TUSCARAWAS COUNTY.

FALL STONE.

November 6th, Jno. G. Davis, Welsh, miner, 59 yrs., Goshen Central mine. Deceased was employed in room No. 4 on the 15th east entry while he and his partner were bringing an empty car into their room for the purpose of loading it. When within 5 or 6 ft. from the face of their room, they encountered an obstruction which prevented the car from going its full distance. Deceased went around the car to remove this obstruction and while doing so a large rock fell. The room was driven in but a short distance and the first break through had not yet been made. The place was well timbered, and this accident appears to have been unforeseen.

VINTON COUNTY.

FALL STONE.

August 31st, Thos. Lomax, American, miner, Lomax mine. Deceased was one of the parties operating this mine acting as mine foreman, and was employed at various kinds of work around the mine. This fatal accident occurred in one of a pair of entries being driven from the outside into the north workings of the mine which was to shorten the haulway. A shot had been fired in this entry at dinner time and on returning it was discovered that post had been knocked out; while cleaning a place to re-set this post the slate fell without warning, killing deceased instantly.

MINING LAWS AND LEGISLATION

Opinion on

The Use of Alternating Current in Mines.

Contract between Mine Owners and Employes Riding on Haulage Trips.

Legality of Free Transportation and its Attendants on Mine Rescue Car.

Power of Industrial Commission Concerning Oil and Gas Well Drilling.

Maps of Oil and Gas Wells.

Amendment to Section 978 Relative to Weighing of Coal.

(525)

OPINIONS

STATE OF OHIO,
OFFICE OF THE ATTORNEY GENERAL,
COLUMBUS.

APRIL 4, 1914.

OPINION.

MR. J. C. DAVIES, *Chief Deputy,*
Department of Inspection,
The Industrial Commission of Ohio,
Columbus, Ohio.

DEAR SIR:—Under date of March 16, 1914, you submit the following inquiry:

"We request an opinion from your Department as to whether or not alternating current which has been already installed and in use in the underground workings of a mine at the time of the passage and approval of Section 948 of the General Code can legally be continued."

Paragraph 3 of Section 948, which has reference to alternating current reads thus:

"At each mine equipped with electric power after the passage and approval of this act, no alternating current shall be used underground to operate any machinery other than that necessary to convert the alternating current to direct current, and no wires carrying alternating current shall be used underground except same be carried in an entry or passageway where persons and animals are not permitted to travel."

The plain language of the statute in question seems to indicate the inhibition against electric current is applicable only to those mines which are equipped with electric power after the passage and approval of the act in question. If the act were intended so to be read as to prohibit the use of alternating current after the passage and approval of the act in question, this would have been accomplished by the omission of the words: "after the passage and approval of this act," and we cannot assume that the legislature inserted these words without having intended that something should be accomplished by such insertion. The result thus accomplished is, as we have before indicated, to permit the mine equipped with electric power prior to the passage of the act in question, to use alternating current underground to operate machinery, etc.

I desire, however, to call your attention to the concluding paragraph of Section 948, which reads thus:

"At each mine equipped with electric power *prior to the passage and approval* of this act, where the pressure or potential is in excess of 325 volts, direct current, *or where alternating current is used* and the conditions surrounding the use of same are such, in the opinion of the chief inspector of mines, that the provisions of the preceding section do not provide the required protection from shock to persons employed therein, such additional safeguards shall be employed as may be required by the chief inspector of mines, and the district inspector of mines jointly."

The next preceding section, viz., Section 947, regulates the use of electricity and the control of current, as well as the manner of placing of wires in mines. Should the safeguards therein provided be insufficient because alternating current is used in the mine, your board can legally provide such additional safeguards as may be necessary for the protection from shock to persons employed in such mine.

The paragraph last quoted gives added force to the contention that the prohibition against alternating current applies only to mines equipped with electricity after the passage of the act, because this paragraph refers to the use of alternating current in a mine equipped prior to the passage of the act. It does not limit the use of such alternating current in the manner in which it is limited in the third paragraph, which is also quoted in this opinion.

Very truly yours,

TIMOTHY HOGAN,
Attorney General.

STATE OF OHIO,
OFFICE OF THE ATTORNEY GENERAL,
COLUMBUS.

APRIL 24, 1914.

*Industrial Commission of Ohio,
Department of Inspection,
Columbus, Ohio.*

GENTLEMEN:—

Attention of Mr. J. M. Roan.

Under date of March 10th, 1914, you inquire as follows:

"Will you please be kind enough to give me written opinion as to whether contract made between mine owners and their employes under section 961 of the General Code is to be signed by the employes individually, rather than by their representatives or agents."

That part of Section 951 of the General Code bearing upon this question reads as follows:

"No person or persons except those in charge of trips, superintendents, mine foremen, electricians, machinists and blacksmiths, when required by their duty, shall ride on haulage trips, except where by mutual agreement in writing, between the owner, lessee or agent, and the employes, a special trip of empty cars is run for the purpose of taking employes into and out of the mine, or empty cars are attached to loaded trips, which shall not be run at a speed exceeding eight miles per hour. No person except a trip-rider shall ride on loaded car or cars, and he shall ride only the front or rear end of the trip."

The express purpose of this statute is to preclude employes generally from riding on loaded car or cars, and the evident design of the law was to make special provision for the carrying of employes into and out of the mines, in empty cars. I think that under this section an agreement could be entered into providing for this special trip, and that a separate agreement would not have to be made for each trip, provided that the contract or agreement specifically provided for the trip upon which the employes were to be carried in the empty cars. That is to say that if the contract stipulated that a certain trip or trips would be made each

day for this purpose, at designated times, then the agreement could be so drafted as to permit the employe to ride on the empty cars at the time therein specified, but this fact should be made clear in the contract, which should stipulate that the cars upon which the miners should ride were to be empty and were to be provided for the express purpose of taking employes into and out of the mine.

The main object of your inquiry, however, as I understand it, is with reference to the manner in which the contract should be signed. Upon this point I am of the opinion that the owner, lessee or agent of the mine would have the right to sign on behalf of the mine owner, but that the employes' representatives or agents could not sign for such employes unless they had express authority from each employe who was to ride upon the cars so to do. Any other course would result in representatives who had not been authorized to represent the miners in this matter, signing an agreement which had not been sanctioned by the employes. As a consequence, the employes who had no knowledge of the agreement would see their co-workers getting upon the cars, and they would do likewise. In case injury then resulted, those who had not authorized the use of the cars for this purpose would have just cause for criticism not only of the mine owner, but of their representatives who had, without authority, signed the agreement.

In order that the spirit of the act may be sub-served, and for the protection of both operator and miner, this statute should be so construed as only to authorize the carrying of miners in cars, where the agreement was signed by the owner, his lessee or agent and the employes desiring to ride upon the cars. Of course, if the miners would, in writing, authorize some person to sign for them, this would be the same as giving power of attorney to their agent so to act, and those who had given him such authority would be bound thereby.

In order to obviate any question of this character, I would suggest that your department rule that the miners be required individually to sign the agreement. You will observe that the statute authorizes an agent to represent the mine owner, but that it does not authorize the employes to have a representative to act for them under this statute. This would seem to make clear the fact that the statute contemplated individual action by the employes.

Very truly yours,

TIMOTHY S. HOGAN,
Attorney General.

MAY 28, 1914.

THE INDUSTRIAL COMMISSION OF OHIO.

DIVISION OF MINES.

DEPARTMENT OF INSPECTION.

SAFETY FIRST CONSIDERATION.

The Public Utilities Commission, State of Ohio, Columbus, Ohio.

DEAR SIR:—The State of Ohio has procured a car which is known as the "State Mine Rescue Car," but which in reality is not a Mine Rescue Car, any more than it is a car for rescue or first aid work in all disasters, it matters not of what nature, whether it be mines, factories, railroads or hotels. This car is equipped with all the latest apparatus and paraphernalia for first aid work, and is to be stored in Columbus, and will be ready for use when called upon to aid in any disaster in the state.

We have talked this matter over with railroad officials, and they feel very kindly disposed. We would hope to be able to make arrangements with all railroads throughout the state so the car would be moved promptly by any of them in the state. Some of the railroads have intimated that they would be glad to move the car free of charge with regular attendants who would be engaged solely in first aid and rescue work, if by so doing, they were assured they would not be violating the law. We would, therefore, kindly ask your Honorable Body to pass upon this matter as promptly as possible, and as soon as we can get a decision, we will be able to make arrangements with the railroads, the car being already equipped and ready for use.

We hope you will appreciate the importance of this matter, as we cannot tell at what moment the car may be called upon for action. We are mailing the Attorney General a copy of this correspondence, feeling that possibly he might be called upon in some way for an opinion, in which case he would be familiar with all of the facts, thereby facilitating matters, and be able to respond more promptly.

Very truly yours,

J. M. ROAN,
*Chief Deputy and Safety Commissioner
of Mines.*

THE INDUSTRIAL COMMISSION OF OHIO,

DEPARTMENT OF INSPECTION,
DIVISION OF MINES.
COLUMBUS.

MAY 28, 1914.

HON. T. S. HOGAN, *Attorney General, State of Ohio.*
Columbus, Ohio.

DEAR SIR:—We herewith enclose you copy of letter which we have this day written the Public Utilities Commission of Ohio, which explains itself.

We hope you will appreciate the importance of this letter, and that you will give an early and favorable opinion. We believe there has been a decision in a matter of this nature in the state of West Virginia, by which the United States Rescue Cars are being moved over some of the roads free of charge, but this being a state matter, and permission only being asked to move the car within the boundaries of the state, we hope you will be able in some way to render a favorable opinion; after we receive a decision from The Utilities Commission, and an opinion from your honorable self, we can then go ahead and arrange for such orders being issued by the heads of the traffic departments of each railroad so that the car can be moved promptly upon request from this Department, and in this way, we will avoid delay.

As stated above in our letter to the Utilities Commission, the railroads all being interested, the car will be just as advantageous as it would be in any other disaster that might happen around the mines or factories, and would be just as available.

Awaiting an early reply, we remain,

Very truly yours,

J. M. ROAN,
*Chief Deputy and Safety Commissioner
of Mines.*

THE PUBLIC UTILITIES COMMISSION OF OHIO.

COLUMBUS, OHIO, June 18, 1914.

HON. J. M. ROAN, *Chief Deputy and Safety Commissioner of Mines.*
Columbus, Ohio.

DEAR SIR:—The Public Utilities Commission of Ohio referred your letter of May 28, 1914, to me, with instructions to take up the matter therein referred to with the Attorney General of Ohio, in order to obtain his advice as to the legality of free transportation of the Rescue Car and attendant by the railroads of Ohio.

The Attorney General advised that it was legal for railroad companies to transport such car and its attendant without charge and has written you an opinion to that effect.

The Commission was of opinion before obtaining the advice from the Attorney General, that your car and its attendant could be transported free of charge and they authorize me to state to you, following advice of the Attorney General, that the railroad companies of Ohio can transport such car and its attendant without charge in this state, and the Commission will regard such action on the part of the railroad companies as just and proper.

Very truly yours,

JOSEPH MCGHEE,
*Attorney for The Public Utilities Com-
mission of Ohio.*

STATE OF OHIO,
OFFICE OF THE ATTORNEY GENERAL,
COLUMBUS.

JUNE 17, 1914.

OPINION.

MR. J. M. ROAN, *Deputy and Safety Commissioner, Division of Mines.*

DEAR SIR:—Under date of May 28, 1914, you state that Ohio has procured a car known as the "State Mine Rescue Car," which is used for first aid work not only in mine disasters, but in all other great casualties occurring in mines, factories, hotels, or upon railroads. This car is equipped with all of the latest apparatus and devices for first aid work, is kept in Columbus, and is ready for immediate use in any disaster occurring in the state. The railroad officials of this state have indicated that they are inclined to favor the free transportation, over their lines, of this car, together with those in charge of the car, when it is to be used in first aid or rescue work, provided the railroads in so carrying the car are assured they will not be violating any law.

You ask for my decision as to the legality of the free transportation of such car and its attendants, under the circumstances set out, when the car is being used for the purpose of aiding those who have been injured in a disaster.

You have limited this request to the transportation of the car within the boundaries of the state.

Section 915 of the General Code of Ohio, as amended 103 O. L. 468, requires the chief inspector of mines to provide and maintain, at the expense of the state, a rescue car, fully equipped with certain designated devices and all necessary instruments, chemicals tests, supplies and appliances. This car shall be stationed at a point designated by the chief inspector of mines and may be transferred, by his direction, at any time to any point within the state, for the purpose of facilitating the efficient inspection of mines and conducting rescue work, and to

demonstrate the various appliances and instruct persons in their use in first aid and rescue work. It and its equipment are to be continuously in charge of one person, who is required to give bond for the faithful discharge of the duties of his office.

It will be noted that this car is not only for the purpose of conducting rescue work, but also for the purpose of facilitating the inspection of mines, but it is only with the former that your request deals, and consequently, I shall only discuss that phase of the question.

The statute is part of the code of laws dealing with mines and mining, and if construed in a narrow sense would only permit the use of the car in connection with mine disasters, but as the statute is humanitarian in its purpose, and as it will be of great benefit and advantage to the people of the state of Ohio if given a wider and broader scope than that of solely affording first aid to those injured in mine accidents, that it should follow that it should receive a liberal construction in order that the humane and worthy object for which it was designed may be given as complete attainment as possible.

The chief inspector of mines may, at any time, transfer it for the purpose of conducting rescue work; and in defining rescue work, the statute is not in any way limited to mines, and consequently, under the circumstances, I do not think that I should be warranted in restricting its meaning because of the fact that it appears among other statutes dealing exclusively with mines, or because the equipment set out in the statute is especially adapted to mine rescue work. So to construe the law would be to disregard that warning so beautifully expressed ages ago:

"The letter killeth, but the spirit giveth life."

In addition to this, great consideration should be given the construction placed upon the statute by your department, and from your letter, it is clear that you have construed the statute so as to permit the use of the car in cases of all disasters.

I make this preliminary statement for the reason that the character of the car has great bearing upon the construction of the statutes with which your request directly deals.

Section 516 of the General Code prohibits free transportation, by railroad companies, to passengers, except, among other designated persons, to

"persons exclusively engaged in charitable and eleemosynary work"

and section 517 expressly states that the preceding section shall not be construed to prohibit any railroad company from carrying passengers free in order to provide relief in cases of general epidemics, pestilence, or other calamitous visitation.

These sections indicate that it was not the intent of the General Assembly, in prohibiting free transportation, to deny such free transportation, when the purpose thereof was to help those who were a proper subject of charity or aid by reason of some calamity which had overtaken them.

The whole question, however, seems to me to be governed by section 614-72 of the General Code. This statute deals with the public service commission and railroad companies, and provides:

"Nothing in this act contained shall prevent any public utility or railroad from granting the whole or any part of its property for any public purpose, or granting reduced rate or *free service of any kind* to the United States government, *the state government*, or any political division or subdivision thereof, or for charitable purposes * * *

As the rescue car referred to in your communication is maintained by your department under authority of the state, any use of such car is the use of a governmental agency, and the free transportation of such agency would be the rendering of free service to the state government, and consequently would come within the purview of the language just quoted. This would not only include the transportation of the car itself, but would also include the carriage of those whose duty it is to see that such car and its equipment are used in the proper way in the furnishing of first aid to the injured, and in rescue work.

In addition to this it must be, I think, conceded that when this car is in use in the manner set out in your communication, it is being operated for charitable purposes. When it is to be used for the purpose of relieving those who have been injured, or rescuing those who are in danger, it must assuredly be treated as promoting the welfare of the community, or some indefinite part of it. It bestows relief in a manner otherwise impossible.

This doctrine has also received recognition in section 22 of the Interstate Commerce Act, adopted by the Congress of the United States, the following language appearing therein:

"Nothing in this act shall prevent the carriage, storage or handling of property, free or at a reduced rates, for the United States, *state* or municipal governments, *or for charitable purposes.*"

For the foregoing reasons, I not only think it legal for railroad companies to transport such car and its attendants without charge, but would regard such action on the part of the railroad companies as eminently just and proper and as deserving of the highest commendation.

Very truly yours,

TIMOTHY S. HOGAN,
Attorney General.

STATE OF OHIO,
OFFICE OF THE ATTORNEY GENERAL,
COLUMBUS.

JUNE 29, 1914.

OPINION.

*Industrial Commission of Ohio, Department of Inspection.
Columbus, Ohio.*

GENTLEMEN:—Under dat of May 4, 1914, you state that drillers of oil and gas wells are drilling through territories underlaid with coal, regardless of suggestions made by your department and the mine operators, as a result of which an explosion involving the loss of life may occur. You ask if you have power to locate these wells and to insist upon records being kept, and mining maps presented to your department. You also say that no record is kept of strata through which the oil and gas wells are passing, and consequently you are unable to obtain information as to the seams or thickness of coal through which the wells pass. This latter information you think the state should have in order to protect itself against dangers when casing is being withdrawn, as if you knew the workable seams, when the well is abandoned you would insist upon the well being plugged a safe distance below the lowest workable seam.

I think your question is answered by the sections of the General Code, to which I shall here refer.

Section 973 provides that a written notice shall be given to the mine inspector before drilling a gas or oil well within the limits of any coal producing county. It is the duty of the person, firm or corporation causing any well to be drilled, to have prepared an accurate map on a scale of one inch to four hundred feet, showing the location and number of wells, the property lines of the property upon which they are to be located in the township, section and quarter section in which such well is being drilled, together with the measurements from the section line and the quarter section line and the sworn statement of the maker of the map, which map is to be kept on file in the office of the state mining department, and open for inspection at all reasonable hours. The original map is to be retained by the owner or surveyor, and a blue print filed with the chief inspector of mines, and another with the county recorder, within sixty days after the passage and approval of the act, or after commencing to drill the well, and if drilling is still continued on the property already surveyed, a complete blue print must be filed at the end of each year.

• The following language is taken from this section:

"No oil or gas well shall be drilled nearer than three hundred feet to any opening to a mine used as a means of ingress and egress for the persons employed therein, nor nearer than one hundred feet to any building or inflammable structure connected therewith and actually used as a part of the operating equipment of said mine.

In the event that a well being drilled for oil or gas penetrates the excavation of any mine, it must be cased with casing of approximately the same diameter as the diameter of the hole, the hole to be drilled thirty feet or to solid slate or rock and not less than ten feet below the floor of such mine, and the casing shall be placed in the following manner; one string of casing shall be placed at a point above the roof of said mine so as to shut off all of the surface water and then the hole drilled through said mine and another string of casing put in and the bottom of the second string of casing, or the one passing through said mine shall not be nearer than ten feet or more than thirty feet from the floor of the mine where it passes through the same.

When any well which has been drilled for oil or gas is to be abandoned and has passed through the excavations of any coal mine from which the mineral coal has not all been removed, the person, firm or corporation owning said well shall leave in said well the casing passing through said mine from a point not less than ten feet nor more than thirty feet below the floor of said mine and extending above the roof of said mine five feet and a seasoned wooden plug or iron ball shall be driven to a point forty feet below the floor of the mine and shall then fill the hole and casing left in with the cement or a seasoned wooden plug or iron ball shall be driven on top of the same, and the hole shall then be filled for a distance of not less than twenty feet with cement. If any oil or gas well has passed through a workable vein or seam of coal it shall when it is abandoned be plugged in the following manner: A seasoned wooden plug or iron ball shall be driven to a point thirty feet below the lowest workable seam of coal and the hole filled with cement to a point twenty feet above the first seam of coal and another wooden plug or iron ball driven and the hole filled for a distance of twenty feet with the cement.

The property owner or owners shall report to the Chief Inspector of Mines of the commencing to drill or any well or wells for oil, or gas on his or their property and shall report at the end of each year thereafter if

drilling is continued the number of wells drilled on his or their property, the date drilled and by whom drilled.

When any oil or gas well is to be abandoned, the person, firm or corporation having drilled or operated such well, shall notify the Chief Inspector of Mines, at least ten days in advance so that he may direct one of his District Inspectors to be present at the time of abandonment."

Section 976 prescribes a penalty of not less than one hundred dollars, nor more than five hundred dollars for the first offense, and a fine of not less than two hundred dollars nor more than one thousand dollars, or imprisonment not less than thirty days nor more than six months, for a second offense in case any person, firm or corporation violates or wilfully refuses or neglects to comply with the provisions of the foregoing quoted section.

Section 914 provides that the Chief Inspector of Mines, upon receiving notice from a person, firm or corporation of an intention to drill an oil or gas well, which will likely penetrate a workable seam of coal, shall make a record thereof, *and if such well is to be drilled so as to comply with the provisions of this act relating thereto, he shall give his permission to the parties to proceed.* He shall keep on file in his office all the papers or maps pertaining to oil and gas wells, and see that the provisions relating to the drilling, operating and abandonment of such wells are complied with.

From these sections you will see the statute is specific as to the manner in which wells shall be drilled in coal-producing counties. Such well must not be drilled nearer than three hundred feet to any opening of any mine used as a means of ingress or egress for persons employed therein, or nearer than one hundred feet to any building or inflammable structure connected therewith. When the well is drilling for oil or gas and penetrates the excavations of a mine, the manner of casing is specifically prescribed by section which I have quoted; and when the well is to be abandoned the statute clearly defines the manner in which the mine may be protected. This statute outlines in detail the duty of your department, as well as the obligation imposed upon the owner of the well. You should see that the provisions of this statute are complied with, and when this is done, the owner of the well has complied with his statutory duty.

I note that you say the owners of wells are neglecting the keeping of a record of the strata through which the oil and gas wells are passing. The statute provides that if the oil or gas well passes through a workable seam of coal it shall, when abandoned, be plugged in a specified manner. As there may be some doubt as to what constitutes a workable vein or seam of coal, I can readily see that your department should be advised by the driller of the well when any stratum of coal is penetrated in order that it may determine whether or not such stratum is a workable vein, as otherwise it would not know whether or not this statute was being complied with when the well is abandoned.

As your department is now under the charge of the Industrial Commission, I think it well to call your attention to the powers reposed in that Commission with reference to prescribing reasonable standards for the maintenance of places of employment in order to render them safe. Among other powers reposed in the commission is that prescribed by paragraph 10 of section 22 of the Industrial Commission Act, (103 O. L. 102), wherein this language is used in defining the powers of that Commission:

"to collect, collate and publish all statistical and *other information* relating to employes, employers, employments, places of employments and such other statistics as may be necessary * * *

This language empowers the Commission to collect any information relating to places of employment, employers and employees, as may be necessary. Should the Commission determine that it was necessary to obtain this information in order that it might render a place of employment safe, it would seem that it could require the driller of the well to report fully to it all facts regarding the veins of coal through which the well passes.

There is other language in this act which carries with it similar powers. If from such information the Commission is of the opinion that a workable seam or vein of coal has been penetrated, the well should be plugged in the manner required by section 973, it being the duty of the owner of the well to notify your department at least ten days prior to abandonment, in order that one of your district inspectors may be present at the time of abandonment and see that the statutory requirements have been followed.

I have not at length explained the statute in full, as that part quoted is too clear to require interpretation.

In conclusion I should like to call your attention to Sections 6311 et seq., which also deal with the drilling of natural gas and oil wells and the abandonment thereof.

Very truly yours,

TIMOTHY S. HOGAN,
Attorney General.

STATE OF OHIO,
OFFICE OF THE ATTORNEY GENERAL,
COLUMBUS.

TIMOTHY S. HOGAN, *Attorney General.*

OPINION.

JUNE 29, 1914.

MR. J. M. ROAN, *Chief Deputy and Safety Commissioner of Mines,*
Columbus, Ohio.

DEAR SIR:—Under date of May 21st, 1914, you present the following state of facts and question:

"Section 973 of the General Code reads as follows:

'Any person, firm or corporation causing to be drilled any well for oil or gas or elevator well or any test well within the limits of any coal producing county of this state, must give notice, in writing of such fact to the chief inspector of mines, stating the location of the land upon which such well is to be drilled."

"It shall be the duty of any such person, firm or corporation to make or cause to be made an accurate map on a scale of one inch to four hundred feet, showing on said map the location and number of wells,
* * * The original map shall be retained by the owner or surveyor and one blue print filed with the chief inspector of mines and one with the recorder of the county in which such well is located within sixty days after the passage and approval of this act, or after commencing to drill any oil or gas well, and if drilling is still continued on the property already surveyed, a complete blue print shall be made and filed at the end of each year."

The question has arisen as to whether or not a company, having drilled wells a number of years prior to the passage and approval of this act should have made and filed maps showing the location of such well within the sixty-day time limit mentioned above, and having failed to do this, should they do so now?

In the paragraph first quoted the present tense is used, leading one to believe that the section refers only to wells being drilled at the time the act was passed, and those drilled subsequent to that date; but the last of the second paragraph provides that maps be filed "within sixty days of the passage and approval of this act", which may refer to any wells drilled in the past."

In your inquiry you have very accurately stated the difficulties arising in the construction of this law. If the paragraph first quoted stood alone, it would be apparent that the law should be treated as prospective in its nature, and hence as applicable only to those who caused wells to be drilled subsequent to the taking effect of the statute; but the context of the immediately following paragraph seems to express a contrary legislative intent, in that it requires the filing of a blue print, showing the location of the number of wells, with the chief inspector of mines and with the county recorder, "*within sixty days after the passage and approval of this act, or after commencing to drill any oil or gas well.*"

If the statute were intended to be purely prospective, it would have been unnecessary for the General Assembly to have inserted the language just quoted in the alternative. In other words, there would have been one definite measure of time fixed, or rather one certain period from which time should run, instead of naming two, as is done in the act.

It is hard to understand why the blue print should be filed *either* within sixty days after the passage and approval of the act, *or* after commencing to drill any oil or gas well, unless there were in the legislative mind two classes of wells, viz.: those in existence at the time the act went into effect, and those which should be thereafter drilled.

In cases of ambiguity, such as the foregoing, in statutes, the authoritative doctrine is that the intention of the General Assembly should be ascertained and given effect. In ascertaining such intent, however, there are certain fundamental rules which the courts almost universally adopt. An epitome of those rules which are here applicable may be thus expressed:

Every statute must be interpreted with reference to the object intended to be accomplished by it, and that construction should be given it which is best calculated to advance its objects by suppressing the mischief and securing the benefits intended, the courts going so far as to hold that if the clear object of a statute is inconsistent with its precise words, the latter must yield to the controlling influence of the legislative will as apparent from the tenor of the law. In cases where the meaning of the statute is doubtful, the effect of the construction should be kept in mind to the end that inconvenience, absurdity and prejudice to public interests should be eliminated. In other words, a reasonable result should be produced if possible.

See 36 Cyc. 1108-1112.

Now it does not seem to me that it could have been the legislative intent in this statute to make a distinction between wells which were in operation prior to the taking effect of Section 973, and those which were drilled subsequent to that time. Such design on the part of the General Assembly would not be promotive of the public interests to the same extent as if the location of *all* wells were to be shown. The legislature clearly had in mind the idea that the designa-

tion of the location and number of wells was promotive of the public interest, and the policy and purpose of the act was to require this to be done. Such being the object, the statute should be so interpreted as to accomplish this purpose and suppress the mischief of which evidently arose by reason of their being no record of the number and location of wells. The most complete and efficient accomplishment of this purpose is to be attained by records pertaining to all wells. If the law be given such meaning it will prevent inconvenience, absurdity and injustice.

As before suggested these rules would not be applicable if the sense and meaning of the law were plain, but here the letter of the statute being both doubtful and ambiguous, we think that the rules we have suggested should be given due weight.

Merely because the first paragraph of this section seems to be, as you well suggest, in the present tense, it does not follow that it may not be construed in the past tense, for, as stated in Lewis Sutherland's "Statutory Construction" page 795:

"An act expressed in words of the future tense may still show an intent to have a present effect."

A leading case on this subject is that of *Mayesville & Lexington R. R. Co. v. Herrick*, 13 Bush (Ky.) 122. Section 10 of Article II of Chapter 52 of the General Statutes of Kentucky provides that

"a married woman who shall come to this commonwealth without her husband * * *

A Mrs. Herrick went to Kentuck prior to the adoption of the statute just referred to, and it was claimed that she could not take advantage of the act because it was to be given a prospective effect. The court say:

"To exclude her because the state speaks of only married women 'who shall come etc.' would be to adhere to the letter of the law and to disregard its spirit. * * * A person clearly within this class will not be denied the benefit of a remedial statute by grammatical construction at the expense of the manifest legislative intent."

See also *Malloy v. Railway* 85, N. W. 130.

This intent seems to me to be manifest, as before suggested, by the second paragraph of the section, in stipulating the period from which the time, within which the blue print is to be filed, shall run. If such were not the case, we should have to assume that the legislature inserted the words "after the passage and approval of this act", in the statute without any reason therefor. This language must have contemplated the existence of those wells which had been drilled prior to and were in existence at the time of the passage and approval of the act in question, as otherwise we should have the absurdity of two different periods of time applying to the same wells—that is to say if the law only applied to wells drilled after the enactment thereof, then the person, firm or corporation causing the well to be drilled could file the blue prints either in sixty days after the passage and approval of the act or after commencing to drill. As soon as the law had been effective for sixty days the clause "after the passage and approval of this act" would become obsolete and would be of no force or effect; and not only is this true, but such clause would be absolutely unnecessary as the other period of time expressed in the law would completely

and fully cover every case that could have been contemplated by the former clause which we have just quoted.

It would be an extremely violent presumption to assume that the general assembly inserted without necessity or reason, language which would, in a short time, become obsolete and ineffective, when the immediately following language amply provided for every situation that might arise.

From those considerations it must necessarily follow that there should be some purpose and effect given the words "after the passage and approval of this act", and it is my judgment that this purpose was to require the filing of blue prints showing the number and location of wells which had been drilled before the amendment of Section 973, 102 O. L. 149.

Another rule of statutory construction which has some bearing upon this case, is that when doubt arises as to the proper construction of a section, regard may be had to the original law, of which the act was an amendment. The Supreme Court of this state has frequently decided this question, and I shall here only refer to two decisions.

In *Hamilton v. Steamboat* 16 O. S. 429, there was dispute as to the proper meaning of a law. The court on page 433 say:

"But we think all doubt as to the proper construction of this section may be settled by the application of the rule that, in the construction of revised or *amended* statutes, the original statute will not be regarded as changed further than *clearly* appears to have been intended by the legislature."

In *State v. Commissioners* 36 O. S. 326, it is held that the court is only warranted in holding the construction of a statute which has undergone revision to be changed when the intent of the legislature to make such change is clear, or the language used in the new act clearly requires such change of construction to be made. The intent to give the new act a different effect from the old should be clearly manifest. With this in view it is proper to resort to Section 973 as amended 101 O. L. 87. It was there provided that any person, firm or corporation who drills or causes to be drilled * * * any oil or gas well, shall observe the following:

"Any person, firm or corporation *intending* to drill an oil or gas well * * * shall give notice * * * stating the location * * *

The person firm or corporation *drilling* or operating an oil or gas well shall make or cause to be made a map showing the location of such well and the surface upon which located, and for a distance of 500 feet contiguous thereto. Such a map shall bear the sworn certificate of the engineer and shall be filed with the chief inspector of mines within ten days from the time the drilling of such well is commenced; *provided, however, that wells previously drilled and in operation upon the passage and approval of this act, such map shall be filed within thirty days, and such map shall show the location of each oil or gas well, building and mine opening within the limits of such map.*"

It is apparent from a comparison of these two sections that it was the manifest intention of the legislature to require greater publicity and more detailed information in regard to the location and number of wells in the amended statute than was provided for in the law in existence at the time of the passage of such amendment. There is nothing, however, to indicate that the new law was intended to be less broad or inclusive. The policy actuating the alteration

was to require more complete information to be furnished by the person drilling or causing to be drilled any oil or gas well. Therefore, the only change which one can see was clearly intended by the General Assembly in passing this law, was to accomplish the purpose of enabling your department to obtain more detailed information than was theretofore possible for it to secure. Such being the case it seems to me that the italicised language just quoted should be treated as a clear indication not only of how the old act should operate, but also as shedding light upon the clause of the new act which I have before discussed, viz: "after the passage and approval of this act." That is to say, in the old statute this language had reference to those wells previously drilled and in operation, the time for filing a map thereof being within thirty days after the taking effect of the law; and it was the intention of the law makers in amending the statute to require the filing of these maps within an extended period of sixty days. The fact that both statutes refer to two separate periods from which the time shall begin to run, one applicable, in the earlier statute to previously drilled wells, and the other applying to those thereafter constructed—indicates to my mind that it was the obvious aim of the general assembly to continue in the second the policy outlined in the first law. It is not likely that the legislature would pass a statute of this character, under circumstances like this, requiring maps of all wells to be made, and by a subsequent amendment dispense with such maps as to wells drilled prior to the going into effect of the amendatory section. I can conceive of no reason for this, and feel that the General Assembly altered the language in this regard for the purpose of rendering the amendment more concise and without any design to exempt any driller from the requirement of making and filing the map.

Therefore, in direct answer to your question, it is my opinion that a company maintaining wells drilled a number of years prior to the passage and approval of section 973 of the General Code, as it now stands, should make and file copies showing the location of such wells, and as the sixty day limit for so doing has expired, they should now do so.

Very truly yours,

(Signed.)

TIMOTHY S. HOGAN,
Attorney General.

(Am. Senate Bill No. 72.)

AN ACT

To amend sections 978-1, 978-2, 978-3 and 978-6 of the General Code as amended February 17th, 1914, (O. L. 104, page 181) relating to weighing of coal at the mines.

Be it enacted by the General Assembly of the State of Ohio:

SECTION 1. To amend sections 978-1, 978-2, 978-3 and 978-6 of the General Code as amended February 17th, 1914, (O. L. 104 page 181) to read as follows:

Sec. 978-1. Every miner and every loader of coal in any mine in this State who under the terms of his employment is to be paid for mining or loading such coal on the basis of the ton or other weight shall be paid for such mining or loading according to the total weight of all such coal contained within the car (hereinafter referred to as mine car) in which the same shall have been removed out of the mine unless otherwise agreed between employer and miner or loader.

Sec. 978-2. Said industrial commission shall ascertain and determine the percentage of slate, sulphur, rock, dirt, or other impurity unavoidable in the proper mining or loading of the contents of mine cars or coal in the several operating mines within this state, subject, however, to the right of the employer and miner or loader in any of such mines to make an agreement with reference thereto.

Sec. 978-3. When there is no agreement between the miner or loader of coal in any mine in this state and the operator thereof whereby the miner or loader is to be paid for mining or loading coal other than on the basis of the ton or other weight according to the total weight of all such coal contained within the car it shall be the duty of such miner or loader of coal and his employer to agree upon and fix, for stipulated periods, the percentage of fine coal commonly known as nut, pea, dust and slack allowable in the output of the mine wherein such miner or loader is employed. At any time when there shall not be in effect such agreed and fixed percentage of fine coal allowable in the output of any mine, said industrial commission shall forthwith upon request of such miner or loader or his employer, fix such allowable percentage of fine coal, which percentages so fixed by said industrial commission shall continue in force until otherwise agreed and fixed by such miner or loader and his employer. Whenever said industrial commission shall find that the total output of such fine coal at any mine for a period of one month during which such mine shall have been operating while the percentage of fine coal so fixed by said industrial commission has been in force, exceeds the percentage so fixed by it, said industrial commission shall at once make, enter and cause to be enforced such order or orders relative to the production of coal at such mine, as will result in reducing the percentage of such fine coal, to the amount so fixed by said industrial commission.

Sec. 978-6. It shall be unlawful for the employer of a miner or loader of the contents of any car of coal to pass any part of such contents over a screen or other device, for the purpose of ascertaining or calculating the amount to be paid such miner or loader for mining or loading such contents, whereby the total weight of such contents shall be reduced or diminished unless otherwise agreed between employer and miner or loader. Any person, firm or corporation violating the provisions of this section shall be fined for each separate offense not less than three hundred dollars nor more than six hundred dollars.

SECTION 2. That said original sections 978-1, 978-2, 978-3, and 978-6 of the General Code as amended February 17, 1914 (O. L. 104, page 181) be and the same are hereby repealed.

CHARLES D. CONOVER,
Speaker of the House of Representatives.

JOHN H. ARNOLD,
President of the Senate.

Passed May 15, 1915.
Approved May 26, 1915.

FRANK B. WILLIS, *Governor.*
Filed in office of Secretary of State May 27, 1915.

RULES AND EXCERPTS OF THE MINING LAWS

(548)

RULES AND EXCERPTS OF THE MINING LAWS.

The following is a copy of Rules and Excerpts of the Mining Laws governing the safe operation of mines of the state of Ohio, which The Industrial Commission of Ohio, through the head of the Department of Mines and Safety Commissioner, prepared and had published in the English, Hungarian, Polish, Italian, Roumanian, Croatian, Slavonian and Slovak languages. These laws and rules relate especially to the duties of mine superintendents, mine foremen, or over-seer; stablemen; fire bosses, and to employes generally, as well as persons not employes; also to general provisions of the mining laws, and the penalties for each violation was published.

We have discussed both publically and through the medium of various trades papers and mining journals, from time to time, the question of the employment of labor known as the Foreign Element, in our coal mines and other industries, commenting on the attending evil of same, and that many of the fatal and serious accidents occurring in and around coal mines, factories and other industries are due to the cause of employing this element of labor, and their inability to speak and understand the English language.

Our impressions and observations gained from an experience in the capacity of practical mining, and from the standpoint of a practical miner, mine manager, and as Chief Deputy and Safety Commissioner of the Department of Mines of Ohio, have impressed upon us the advisability of adopting this method of educating not only the foreign miner who works in the mine, and in many instances, ignorant of the dangers surrounding him, but that it would also be beneficial to the English speaking miner as well, and with this object in view these Rules and Regulations and Excerpts of the Mining Laws have been prepared.

If Mine Superintendents, Mine Bosses, and those employed in and around the mines of our state will familiarize themselves with these rules and provisions of the law, and will carry out and observe strictly their provisions, the list of fatal accidents will undoubtedly be greatly reduced. We find, however, in making an analysis of the causes of fatal accidents reported to this office that miners are in many instances killed at the face of their working places, where the miner is responsible for his own protection, and where if he had placed another post, or removed loose and dangerous roof, his life would have been spared. Some of our coal companies have adopted the system of employing

safety inspectors whose duty it is to travel the working places and issue instructions for the safe working of the rooms; this has resulted in the saving of a large number of lives, and cannot be too highly commended. However, if all those connected with mining will adhere strictly to the suggestions and the laws provided in these Rules and Excerpts, they will be better prepared to place safeguards around themselves, and protect themselves from circumstances and conditions that might lead to their untimely end.

RULES AND EXCERPTS

of the

MINING LAWS

Governing the Operation of Mines of the State of Ohio.

PREFACE.

SAFETY FIRST CONSIDERATION.

Owing to numerous fatal and nonfatal accidents in the State of Ohio, which are in part, attributable to neglect or carelessness on the part of Mine Management and miners, there has been brought to the attention of the Industrial Commission of Ohio, the fact that some of the laws of the State of Ohio, are, in many instances, being violated.

Further:—The Industrial Commission of Ohio feels that a great many of these violations are due to the fact that the Mine Managements and miners and those working in and around the mines have not familiarized themselves with the laws under which they labor; therefore, for the purpose of enlightening all the nationalities, said Industrial Commission of Ohio has deemed it advisable to print the Mining Laws in pamphlet form and to attach thereto a set of rules governing the different occupations in and around the mines; they also request that all familiarize themselves with the same in order to carry out their instructions, and as far as it lies in their power, to assist in seeing that others do the same.

RELATING TO SUPERINTENDENT, MINE-FOREMAN AND OVER-SEER.

Sec. 951. [Duties of superintendent.] The superintendent in charge of a mine shall see that the provisions of this act are carried out, and shall, in case of an accident resulting in the death of or injury to persons, carefully investigate such accident, and report to the chief inspector of mines, as provided for in this act, and to the owner, lessee or agent of the mine. He shall give such other notice to the chief inspector of mines as required by the provisions of this act, and shall co-operate with the mine-foreman and direct him as may be necessary in securing a compliance with the provisions of this act, and the safety of the

persons employed in the mine. Nothing herein shall prohibit the superintendent from fulfilling the duties of mine-foreman. (Sec. 940, 962, 953, 965; Penalty, Sec. 976.)

Sec. 952. [Duties of mine foreman.] The mine-foreman shall attend personally to his duties in the mine, carry out all the provisions set forth in this act, see that the regulations prescribed for each class of workmen under his charge are carried out in the strictest manner possible, and see that any deviations from any of them are promptly adjusted. (Sec. 953, 965.)

[When ventilation stops.] In case of accident to a ventilating fan, or its machinery, whereby the ventilation of the mine would be seriously interrupted, he shall promptly order the men to immediately withdraw from the mine and not return to their work until the ventilation has been restored, and his permission to enter is given; if at a mine which generates fire-damp, he shall not order them to return until the mine has been thoroughly examined by him, or his assistant, and reported to be safe. (Sec. 922, 923, 924.)

[Dangerous places fenced.] He shall see that all dangerous places are properly fenced off, and proper danger signal boards are hung on such fencing that they may be plainly seen; he shall also travel all air-ways and examine all the accessible openings to old workings as often as is necessary to insure their safety. (Sec. 925.)

[Examination of working places.] He shall examine each working place, or have it examined by his assistant, at least once each alternate day that persons are or should be at work therein, and oftener, when, in his judgment, the circumstances require. He shall instruct pick miners and machine runners regarding the width of working places. (Sec. 956.)

Sec. 953. [When working place is unsafe.] When a working place becomes unsafe from any cause, he shall order the person or persons working therein, to cease mining or loading, and not to remain in such working place, except as may be necessary to make it safe, until it is made safe. (Sec. 956.)

[Supplying of props and timber.] He shall see that the working place of each miner is kept supplied with props of approximate length, caps, and other timbers necessary to securely prop the roof thereof. When he examines a working place, he shall observe the condition of the roof and timbering, and instruct the workmen therein as to the proper method of timbering for the security of the roof. He shall give such instructions to drivers, motormen, trip-riders, and other persons, as may be necessary to keep a supply of timber in each working place. (Sec. 933, 956.)

[Miner without props or timber.] When he finds a miner in a working-place without the necessary props, caps or timbers to securely prop the roof thereof, he shall order such miner to leave such working place until the required timber is supplied, which he shall attend to promptly, and shall order that no cars be delivered to such miner, until timber is supplied. (Sec. 933, 956.)

[Measure and report of ventilation.] He shall keep a careful watch over the ventilating apparatus and air-ways, and measure the ventilation at least once each week, at the inlet and outlet, and at or near the face of all entries; which measurement shall be noted on blanks furnished by the chief inspector of mines. On the first day of each month, he shall sign such blanks, properly filled with the actual measurements, and forward them to the chief inspector of mines. (Sec. 922, 923, 924, 952.)

[Record of boys employed.] He shall keep a record of the boys under sixteen years of age employed by him, or by any other person, giving the name, age, place of birth, name and residence of parents, and character of employment. He shall require written evidence from the parent or guardian of each of said

minors, that the requirements of the school laws of this state have been complied with. (Sec. 912, 944.) See Child Labor Law. Sec. 13002; page 156.)

[Assistant mine-foreman.] The duties of mine foreman shall apply to assistant mine-foreman, when acting for the mine-foreman, or in discharging the duties thereof. (Sec. 952, 965; Penalty. Sec. 976.)

Sec. 954. [Relating to over-seer.] The over-seer shall visit the working place of each inexperienced person engaged at mining or loading, at such intervals as provided for in this act, and instruct them as to their work and safety and assist them in caring for their safety. He shall instruct such persons not to handle or use any explosives except in his presence, until they have been employed in a mine not less than three months, and not then until he is satisfied that such persons are fully competent to handle and use same with safety. When, in his judgment, such persons require more frequent supervision than provided for in this act, he shall visit their working places as frequently as in his judgment the circumstances require. The foregoing shall not prohibit the mine-foreman from fulfilling the duties of overseer, so long as all the provisions of this act are complied with. (Sec. 965; Penalty, Sec. 976.)

PENALTY.

Superintendent, mine-foreman or over-seer.

Any superintendent, mine-foreman, foreman or overseer, who willfully refuses or neglects to comply, so far as such provisions relate to each of them with the provisions of section nine hundred and fifty-one, nine hundred and fifty-two, nine hundred and fifty-three, and nine hundred and fifty-four of the General Code, shall upon conviction thereof, be fined not less than ten dollars nor more than twenty-five dollars and for a second or subsequent offense, shall be fined not less than ten dollars nor more than twenty-five dollars, or imprisoned not less than ten days nor more than twenty days, or both, at the discretion of the court.

RELATING TO STABLEMAN AND FIRE-BOSS.

Sec. 955. (*Duties of stableman.*)..The stableman shall see that the provisions of this act relating to stables are carried out, and shall forbid persons not required by duty, to enter the stable or loiter in or about same, whether the stable be inside of the mine or on the surface. (Sec. 945, 960.)

[Duties of fire-boss.] The fire-boss shall examine with a safety lamp each working place, whether same is in the actual course of working or not, the traveling ways and entrances to old workings in the mine every morning, not more than three hours prior to the appointed time for the employees to enter the mine. As evidence of such examination, he shall mark with chalk upon the face of the coal, or in some other conspicuous place, his initials and date of the month. If there is any standing gas discovered, he shall leave a danger signal across every entrance to such place.

[Report on blackboard.] He shall make a report on a blackboard provided on the outside of the mine for that purpose, and arrange so the men can conveniently inspect it, showing the condition of the mine as to the presence of fire-damp, and indicating the place, or places, where present, if any is present, before he permits any person to enter the mine. He shall examine parts of the mine not in the actual course of working and available, not less than once each three days.

[Written report.] The fire-boss shall make a written report, which shall be kept in the office, or some place at the mine where it can be seen by the mine inspector when called for. He shall see that every part of the mine is kept

free from standing gas, and that all old workings are properly fenced off, as provided for in this act. He shall return to the mine with the miners and remain there at least one hour, attending to the removal of any standing gas. He shall examine the mine on idle days and Sundays if any men are required to work in any part of it, and if more than three hours elapse between the day turn leaving and night turn starting, the places to be worked by night turn must be examined by him with a safety lamp, and reported safe before persons go to them. (Sec. 925, 959; Penalty, Sec. 976.)

PENALTY.

Stableman; fire-boss; entering mine generating fire-damp before reported safe, or going beyond danger signal.

Any person or persons who willfully refuses or neglects to comply with the provisions of section nine hundred and fifty-five of the General Code, or enters a mine generating fire damp before it is reported by the fire boss that it is safe for persons to enter, or goes beyond a danger signal indicating an accumulation of fire damp, as forbidden by the provisions of section nine hundred and fifty-nine of the General Code, shall, upon conviction thereof, be fined not less than twenty-five dollars nor more than fifty dollars, and for a second or any subsequent offense shall be fined not less than twenty-five dollars nor more than fifty dollars, or imprisoned not less than ten days nor more than twenty days, or both, at the discretion of the court.

RELATING TO EMPLOYES GENERALLY.

Sec. 956. [Duties of miner. Examination of working place.] Each miner shall examine his working place upon entering same, and shall not commence to mine or load until it is made safe. He shall be very careful to keep his working place in a safe condition at all times. (Sec. 952.)

[Shall cease work when place is dangerous.] Should he at any time find his place becoming dangerous from any cause or condition, he shall at once cease work, and notify the mine-foreman, or assistant mine-foreman, of such danger, and, upon leaving such place, he shall place some plain warning at the entrance thereto, to warn others, from entering into the danger, and shall not return until ordered to do so by the mine-foreman, or assistant mine-foreman. (Sec. 953.)

[Shall prop roof, etc.] Each miner, or other person employed in a mine, shall securely prop the roof of the working place therein under his control, and shall obey any order, or orders, given by the superintendent or mine-foreman relating to the width of working places, and to the security of the mine in the part thereof where he is at work, and for fifteen feet back from the face of his working place. Such miner, or other person, shall not be held to have violated the provisions of this clause if the owner, lessee or agent fails to supply the necessary props, caps, and timbers, as provided for in this act. (Sec. 933, 953.)

[Shall not waste props, etc.] Each miner, or other person shall avoid waste of props, caps, timber, or other material. When he has props, caps, timber, or other material unsuited for his purpose, he shall not cover up or destroy same, but shall place it near the track where it can be readily seen. (Sec. 933, 953.)

[Blasting when fire-damp is generating.] He shall not fire a blast in any working place which is likely to generate sudden volumes of fire-damp, or where locked safety lamps are used, except with the consent of the mine-foreman, or other competent person designated by the mine-foreman for that purpose. (Sec. 962.)

[Blasting when restricted to specific times.] At a mine where the firing of shots is restricted to specific times, no miner shall fire a shot until the time appointed for him to do so, and then only in such rotation as designated. (Sec. 962.)

[Examination after blasting.] After each blast, he shall exercise great care in examining the roof and coal, and shall secure them safely before beginning to load coal. (Sec. 962.)

[Shall post after undermining.] After the coal is undermined, he shall before shooting the coal, properly post the roof of his working place.

[Must not go under draw-slate.] When draw-slate is over the coal, he shall not go underneath the draw-slate until it is made safe from falling, by securely posting it, and he shall not remove the posts until the coal is removed and he is ready to take down the draw-slate.

[Shall load fine coal.] He shall not place in the gob or refuse pile, or cover up, any fine coal or coal dust, but shall load same into cars. (Sec. 944; Penalty, Sec. 976.)

Sec. 957. **[Duties of machine men.]** Machine runners and helpers shall use care while operating mining machines. They shall not operate a machine unless the shields are in place, and shall warn persons not engaged in the operating of a machine of the danger in going near the machine while it is in operation, and shall not permit such persons to remain near the machine while it is in operation. They shall examine the roof of the working place and see that it is safe before starting to operate the machine. They shall not move the machine while the cutter chain is in motion. When connecting the power cable to the electric wires, they shall make the negative or grounded connections before connecting to the positive, and when disconnecting the power cable, shall disconnect from the positive line before disconnecting the negative or grounded. When positive feed wires extend into rooms, they shall connect such wires to the positive wire on the entry before connecting the power cable, and as soon as the power cable is disconnected shall disconnect such wire from the wire on the entry. They shall use care that the cable does not make contact with metallic rails of the track, and shall avoid, where possible, leaving the cable in water. If they remove props which have been placed by the miner for the security of the roof, they shall reset such props as promptly as possible. (Sec. 941; Penalty, Sec. 976.)

Sec. 958. **[Duties of motormen and trip-riders.]** Motormen and trip-riders shall use care in handling the locomotive and cars, and shall see that the signal or marker, as provided for, is used as provided, and shall be governed by the speed provided for in this act in handling cars.

They shall not run the locomotive with the trolley ahead of the locomotive, except in cases where they cannot do otherwise, and then only at a speed of two miles per hour.

They shall warn persons forbidden to ride on the locomotive or cars, and shall not permit such persons to ride on locomotives or cars contrary to the provisions of this act.

[Duties of trip-rider, rope haulage.] The trip-rider in charge of rope haulage trips shall see that the signal light, as provided for in this act, is in place and in proper condition before starting trip.

[Drivers.] Drivers shall use care in handling cars, especially going down extreme grades, and at junction points.

[Those in charge of trips of cars shall see that doors are closed.] Motormen, trip-riders and drivers in charge of haulage trips passing through doors used as a means of directing the ventilation, shall see that such doors are closed promptly after the trip passes through. (Sec. 923, 943, 961; Penalty, Sec. 976.)

Sec. 959. [Persons must not enter mine until fire-boss reports.] No person shall enter a mine generating fire-damp so as to be detected by a safety lamp, until the fire-boss makes a report outside the mine on a blackboard provided for that purpose, and arranged where the men can conveniently inspect it. No person shall go beyond a danger signal, until all standing gas discovered has been removed or diluted and rendered harmless by a current of air. (Sec. 925, 955.)

[Persons ordered to withdraw must not re-enter without permission.] Any person being ordered by the mine-foreman to withdraw from the mine on account of the interruption of the ventilation shall not re-enter the mine until given permission to do so by the mine-foreman. (Sec. 952.)

[Not more than ten persons in a cage.] When more than ten persons get on a cage or elevator to be lowered into a mine, or to be hoisted out of a mine, the person in charge of the lowering and hoisting of such persons shall order a sufficient number to get off to reduce the number to ten persons, and the persons so ordered shall immediately comply. (Sec. 929.)

[Employees shall not loiter.] Each employee of a mine shall go to and from his place of duty by the traveling ways provided; shall not travel around the mine, or the buildings, tracks or machinery connected therewith, where duty does not require, and when not on duty, shall not loiter at, in, or around the mine, the buildings, tracks or machinery connected therewith.

[Intoxicants.] No person shall go into, at, or around a mine, or the buildings, tracks or machinery connected therewith, while under the influence of intoxicants. No person shall use, carry, or have in his possession, at, in, or around a mine, or the buildings, tracks or machinery connected therewith, any intoxicants.

[Must not go beyond danger signal.] No person other than the fire-boss shall remove or go beyond any caution board or danger signal placed at the entrance to any working place, or to the entrance to any old workings in a mine.

Sec. 960. [Intent to defraud.] No person shall erase or change a mark of reference or monument made in connection with measurements; change the checks on cars; wrongfully check a car, or do any act with intent to defraud. or persons except those in charge of trips, superintendents, mine-foremen, electrician, or other thing containing fire, except lanterns as provided for, into any stable or barn. (Sec. 945-955.)

[Must not obstruct airway.] No person shall place refuse in, or obstruct any airway or break-through used as an airway.

[Injuries to mine by workmen and others.] No workman, or other person, shall knowingly injure a water gauge, barometer, air-course, brattice, equipment, machinery, or live stock; obstruct or throw open an airway; handle or disturb any part of the machinery of the hoisting engine of a mine; open a door of a mine and neglect to close it; endanger the mine or those working therein; disobey an order given in pursuance of law, or do a willful act whereby the lives and health of persons working therein, or the security of a mine, or the machinery connected therewith may be endangered. (Penalty, Sec. 976.)

Sec. 961. [Persons not permitted to ride on haulage trips.] No person or persons except those in charge of trips, superintendents, mine foremen, electricians, machinists and blacksmiths, when required by their duty, shall ride on haulage trips, except where by mutual agreement in writing, between the owner, lessee or agent, and the employees, a special trip of empty cars is run for the purpose of taking employees into and out of the mine, or empty cars are attached to loaded trips, which shall not be run at a speed exceeding eight miles per hour. No person except a trip rider shall ride on loaded car or cars, and he shall ride only the front or rear end of the trip. (Sec. 958.)

[Size of lamps for open lights.] No person except as hereinafter provided for, shall use in any coal mine, any oil lamp for the purpose of maintaining an open light, more than two and one-half inches in height, with spout not more than three inches long, with opening not more than three-eighths inch in diameter; provided, however, that mine-foreman, electricians, machinists, motormen, trip-riders, drivers, and other persons whose duties require them to ride on moving trips, work in main air current, or travel frequently from place to place, may use lamps not exceeding three and one-half inches in height, with spout not more than four and one-half inches long, with opening not more than five-eighths of an inch in diameter. (Sec. 943; Penalty, Sec. 976.)

Sec. 962. [Handling and storing of explosives.] No workman shall have at any one time more than one twenty-five pound keg of blasting powder in the mine, nor more than three pounds of high explosives, and no person shall keep blasting powder or explosives dangerously near the electric wire or power cable in any part of the mine where electric wires are in use. No blasting powder, or other explosive, shall be stored in any mine except as above provided.

[Explosives kept in boxes.] Every person who has powder or other explosives in a mine shall keep same in a wooden box, or boxes, securely locked, and said boxes shall be kept at least five feet from the track, and no two powder boxes shall be kept within twenty-five feet of each other, nor shall blasting powder and high explosives be kept in the same box, and in no case shall detonating caps be kept in a box with blasting powder or high explosives.

[Fire must be kept from explosives.] Whenever a workman is about to open a box, package or keg containing powder or other explosives, and while handling the same, he shall place and keep his lamp at least five feet distant from said explosives, and in such position that the air current cannot convey sparks to it; and no person shall approach nearer than five feet to any open box, keg or package containing powder or other explosives, or within five feet of another person handling such explosives, with a lighted lamp, lighted pipe, or other thing, containing fire.

[Conveying of explosives.] Blasting powder or explosives must not be taken into or out of a mine, or moved from place to place in a mine along any entry or haulway where there are electric wires, while the power is on such wires, except when such powder or explosive is conveyed in insulated cars or packages.

[Explosives and tools on cages or stairways.] Powder, explosives and working tools shall not be taken down or up a hoisting shaft in a cage when men are going down or up; nor shall they be taken down or up a stairway used for ingress and egress of persons. (Sec. 956, 963; Penalty, Sec. 976.)

Sec. 963. [Squibs and fuses; missed shots.] Any workman who is about to fire a shot with a squib, shall not shorten the fuse, saturate it with oil, nor ignite it except at the extreme end; he shall see that all persons are out of danger from the probable effects of such shot, and if it be a rib shot, he shall notify the person or persons working next to him on said rib before firing said shot, and shall take measures to prevent any one approaching by shouting "fire" immediately before lighting the fuse.

When a squib is used and a shot misses fire, no person shall return until five minutes shall have elapsed.

When a fuse is used and a shot misses fire, no person shall return until one hour for each foot of fuse used shall have elapsed.

The needle used in preparing a blast shall be made of copper, and the tamping bar shall be made of wood, or shall be tipped with at least five inches of solid copper.

No inflammable material, or any material that may create a spark, shall be used for tamping, and some soft material must always be placed next to the cartridge or explosive. When it is necessary to tamp dynamite, nothing but a wooden tamper shall be used. (Sec. 956, 962; Penalty, Sec. 976.)

RELATING TO PENALTIES.

Employes of mines.

Any person, or persons, who violates the provisions of sections nine hundred and fifty-six, nine hundred and fifty-seven, nine hundred and fifty-eight, nine hundred and sixty, nine hundred and sixty-one, or nine hundred and sixty-two of the General Code, or violates the provisions of section nine hundred and fifty-nine of the General Code, other than to enter a mine generating fire-damp before the fire boss reports it safe, or to go beyond a danger signal indicating an accumulation of fire-damp, shall, upon conviction thereof, be fined not less than five dollars, nor more than ten dollars, and for a second or any subsequent offense shall be fined not less than five dollars nor more than ten dollars, or imprisoned not less than five days nor more than ten days, or both, at the discretion of the court.

RELATING TO PERSONS NOT EMPLOYES.

Sec. 964. [Persons not employes of a mine.] Persons not employes of a mine, except those permitted by law, shall not enter such mine or go upon the property connected therewith, unless consent of the owner, lessee or agent has been secured, and then only when accompanied by a guide furnished by such owner, lessee or agent. This, however, shall not prohibit persons seeking employment at such mine, or the duly authorized representatives of the employes, from entering upon the property as may be necessary to make application to the proper authority or to transact business, provided such persons do not enter the mine until given permission to do so, and do not stand on the tracks, go near the machinery, or other place of danger. (Penalty, Sec. 976.)

PENALTY.

Persons not employes, qualification of miners, check-weighman, check-measurer.

Any person who willfully violates the provisions of sections nine hundred and sixty-four, nine hundred and sixty-five, nine hundred and sixty-six, nine hundred and sixty-seven, or nine hundred and seventy of the General Code, or violates the provisions of section nine hundred and fifty-nine of the General Code relating to loitering and intoxicants, at, in or around a mine, shall, upon conviction thereof, be fined not less than five dollars, nor more than ten dollars, and for a second or any subsequent offense shall be fined not less than five dollars nor more than ten dollars, or imprisoned not less than five days nor more than ten days, or both, at the discretion of the court.

GENERAL PROVISIONS.

Sec. 965. [Qualifications of miner.] Each person desiring to work by himself at mining or loading, shall first produce satisfactory evidence, in writing, to the mine-foreman of the mine in which he is employed, or to be employed, that he has worked at least nine months with, under the direction of, or as a practical miner; provided, however, if the mine in which such person is to be employed generates explosive gas, or fire-damp, he shall have worked not less than twelve

months with, under the direction of, or as a practical miner. Except as hereinafter provided, until a person has so satisfied the mine-foreman of his competency, he shall not work, or be permitted to work at mining or loading unless accompanied by a competent miner.

[Inexperienced miner.] The provisions of this section shall not prohibit a person not so qualified from working in a mine by himself, or with another inexperienced person, when such person or persons work under the direction of a competent overseer, as hereinafter prescribed. Until such person or persons have been employed in a mine for a period of not less than three months, the overseer shall visit the working place of such persons not less frequently than once in each four hours that such persons are in the mine, and instruct them as to their work and safety, and assist them in caring for their safety. After such persons have been employed in a mine for a period of three months, and until they have been employed not less than six months, the overseer shall examine the working place not less frequently than once during each six hours that such persons are in the mine, and shall instruct them as to their work and safety, and assist them in caring for their safety. After such persons have been employed in a mine for a period of not less than six months, the overseer shall examine the working place not less than once each day until such persons become qualified by having worked the period of time hereinbefore provided. The overseer shall instruct such persons not to handle or use any explosives, except in his presence, until they have been employed in a mine not less than three months, and not then until he is satisfied that such persons are fully competent to handle and use same with safety. The overseer shall visit the working place of such persons oftener than required herein, when, in his judgment, it is necessary to do so for the proper safety of such persons. (Sec. 594; Penalty, Sec. 976.)

Sec. 966. [Oath and bond of weigh-master.] Any person employed to weigh coal at a mine in which ten or more miners are employed, and upon the weight of which the earnings of the miners depend, shall take and subscribe to an oath before an officer authorized to administer the same, that he will correctly weigh all coal taken from such mine under existing contracts between the owner, lessee or agent, and the miners, and give due credit for same; and when required by existing contracts between the lessor and lessee, he shall give due credit to such lessor. He shall also give a bond in the sum of three hundred dollars, with two sureties approved by the clerk of the township in which such mine is situated, conditioned for the faithful discharge of his duties, and payable to the state, with the oath indorsed thereon, which shall be deposited with such township clerk. (Penalty, Sec. 976.)

Sec. 967. [Examination of machinery, ventilating current, etc., by miner or owner.] The miners employed in a mine may appoint two of their number to act as a committee to inspect, not oftener than once in every month, the mine and the machinery connected therewith, and to measure the ventilating current. If the owner, lessee or agent so desires, he may accompany such committee or appoint two or more persons for that purpose. The owner, lessee or agent shall afford every necessary facility for making such inspection and measurement, but the committee shall not in any way interrupt or impede the work in the mine at the time of such inspection and measurement. Within ten days after the inspection and measurement, such committee shall make a correct report thereof to the chief inspector of mines, on blanks furnished by him. (Sec. 906; Penalty, Sec. 976.)

ACETYLENE GAS IN MINES.

Sec. 974-1. It shall be lawful to use acetylene gas in lamps in mines subject to the following conditions and restrictions: First, no person or persons shall take into a mine a greater quantity of calcium carbide than will be a reasonable

supply for his own lamp for one day's work. Second, no person shall deposit, or keep in his possession in a mine any calcium carbide, or refuse from calcium carbide, in anything except air-tight containers, and these containers with their contents must be taken out of the mine at the end of each day's work, or sooner, if possible. Third, no person or persons, shall be allowed to use acetylene gas in lamps where there are old or abandoned workings where large quantities of black damp or other poisonous gases are liable to accumulate until such places have been examined by a competent person and pronounced to be free from foul or poisonous atmosphere.

REGULATION OF WEIGHING OF COAL.

Miner to be paid for all coal contained within car.

Sec. 978-1. of the General Code of Ohio. Every miner and every loader of coal in any mine in this state who under the terms of his employment is to be paid for mining or loading such coal on the basis of the ton or other weight shall be paid for such mining or loading according to the total weight of all such coal contained within the car (hereinafter referred to as mine car) in which the same shall have been removed out of the mine; provided, the contents of such car when so removed shall contain no greater percentage of slate, sulphur, rock, dirt, or other impurity than that ascertained and determined by the industrial commission of Ohio as hereinafter enacted.

Industrial Commission to determine percentage of impurity.

Sec. 978-2. Said industrial commission shall ascertain and determine the percentage of slate, sulphur, rock, dirt, or other impurity unavoidable in the proper mining or loading of the contents of mine cars of coal in the several operating mines within this state.

Percentage of fine coal.

Sec. 978-3. It shall be the duty of such miner or loader of coal and his employer to agree upon and fix, for stipulated periods, the percentage of fine coal commonly known as nut, pea, dust and slack allowable in the output of the mine wherein such miner or loader is employed. At any time when there shall not be in effect such agreed and fixed percentage of fine coal allowable in the output of any mine said industrial commission shall forthwith upon request of such miner or loader or his employer, fix such allowable percentage of fine coal, which percentage so fixed by said industrial commission shall continue in force until otherwise agreed and fixed by such miner or loader and his employer. Whenever said industrial commission shall find that the total output of such fine coal at any mine for a period of one month during which such mine shall have been operating while the percentage of fine coal so fixed by said industrial commission has been in force exceeds the percentage so fixed by it said industrial commission shall at once make, enter and cause to be enforced such order or orders relative to the production of coal at such mine, as will result in reducing the percentage of such fine coal, to the amount so fixed by said industrial commission.

Sec. 978-4. Said industrial commission shall, as to all coal mines in this state, which have not been in operation heretofore perform the duties imposed upon it by the provisions hereof.

Industrial Commission may change percentage.

Sec. 978-5. Said industrial commission shall have full power from time to time, to change, upon investigation, any percentage by it ascertained and determined, or fixed, as provided in the preceding sections hereof.

Unlawful to use screen.

Sec. 978-6. It shall be unlawful for the employer of a miner or loader of the contents of any car of coal to pass any part of such contents over a screen or other device, for the purpose of ascertaining or calculating the amount to be paid such miner or loader for mining or loading such contents, whereby the total weight of such contents shall be reduced or diminished. Any person, firm or corporation violating the provisions of this section shall be deemed guilty of a misdemeanor and upon conviction, shall be fined for each separate offense not less than three hundred dollars nor more than six hundred dollars.

PENALTY.**Loading impurity.**

Sec. 978-8. A miner or loader of the contents of a mine car, containing a greater percentage of slate, sulphur; rock, dirt or other impurity, than that ascertained and determined by said industrial commission, as hereinabove provided, shall be guilty of a misdemeanor and upon conviction shall be punished as follows: for the first offense within a period of three days he shall be fined fifty cents; for a second offense within such period of three days he shall be fined one dollar; and for the third offense within such period of three days he shall be fined not less than two dollars nor more than four dollars. Provided, that nothing contained in this section shall affect the right of a miner or loader and his employer to agree upon deductions by the system known as docking, on account of such slate, sulphur, rock, dirt or other impurity.

SAFETY FIRST CONSIDERATION.**Rules and Regulations Governing Mine Management, Mine Foremen and All Employees In and Around the Mines In All Matters of Safety.**

All Superintendents, Mine Bosses, Mine Foremen or any persons exercising supervisory power over employes who have supervision over the general safety of the miners, must familiarize themselves with the Mining Laws of the State of Ohio and see that all rules and regulations are lived up to for the purpose of promoting greater safety to life, limb and property—and they will be held strictly responsible:

Duties of Mine Management.

Rule 1. All means of ingress and egress to the mine must be kept safe and sanitary—free from loose stone and other lurking dangers.

Rule 2. The rules governing haulage trips where men are hauled to and from work, must be properly observed.

Rule 3. Where men are lowered and hoisted in and out of the mine, neither tools nor explosives are permitted in the cage with men. The number in the cage must not exceed ten—the number fixed by law.

Rule 4. The necessary timber must be located at suitable and convenient places in the mine for those requiring same.

Rule 5. Stone or loose draw slate must be taken down or properly timbered in all haulage ways.

Rule 6. Every miner must keep his room properly timbered; *PROPERLY TIMBERED* does not mean any given number of posts, but the number necessary to make the place safe.

Rule 7. If a place is designated by chalk mark for setting timber, the miner must not be permitted to proceed further until such timber is set.

Rule 8. Explosives must not be taken in or out of the mine when the wires are charged, except in properly insulated car or box especially provided for such purpose, and then, only, when animal haulage is not available.

Rule 9. Men must not be permitted to get in or out of mine cars when being hauled in man-trips while trips are in motion.

Rule 10. A machine must be properly shielded when in operation as required by law.

Rule 11. All motors must be provided with headlights and kept in good condition, and rear end of trips must be provided with trip-rider or proper marker.

Rule 12. Lawful lights must be maintained on curves of motor and rope roads and all other important points.

Rule 13. Pushing cars ahead of motor, or running switches must be avoided wherever possible.

Rule 14. All abandoned or dangerous places must be properly fenced off. (The word *FENCED* means, that the fence must be BUILT in such a way that part of it would have to be removed before a man could get through.

Rule 15. Where men are lowered and hoisted in and out of the mine, see that engines, ropes and safety catches, or other safety appliances, are kept in safe working order.

Rule 16. In mines generating fire-damp or other explosive gases, see that no one enters until after mine has been properly examined and reported safe by Fire Boss. All places found with accumulations of gas must be fenced off and properly marked: "danger signals" at all approaches to said working places, including break-throughs. The fire Boss must report on a blackboard outside of mine before anyone is permitted to enter and must make a daily written report of his examination in a book furnished by the State for that purpose and a copy of same forwarded to the deputy inspector. All mines must be kept free from standing gas. This paragraph means that working territory, break-throughs and jaws will be marked in the customary way with "danger signs" and has no application to paragraph fifteen (15), which refers to abandoned works.

Rule 17. Attention is again called to the law regulating the transportation of powder and other explosives and also to the section of the law requiring the miner to provide himself with suitable box.

Rule 18. All rules issued by this department, Superintendent and Mine Bosses, or their representatives as they apply to the personal safety of men in and around the mines, *MUST* be observed.

Rule 19. All shafts where men are hoisted, men use what is commonly known as "fans", or some other safety device for landing cage where men are getting on and off of cage.

Rule 20. All approaches to man hoists must be kept free from mine cars, electric wires and combustible matter. There should be comfortable seats fixed where men can sit to await their turn to be hoisted. Under no conditions will they be allowed to assemble on the bottom. They must approach the shaft from other point than the main bottom landing.

Duties of Employees.

Rule 21. Miners who ride into the mine in trip, where agreement has been made to haul them in must be seated in mine cars, and no more permitted in cars than can be comfortably seated, and must be governed by all rules of running such trips.

Rule 22. Upon arrival at his working place, each miner shall thoroughly examine same, and shall not commence to mine or load until it is made safe, and he shall be very careful to keep his working place in a safe condition at all times.

Rule 23. Whenever a working place is dangerous, the miner shall cease work and notify mine foreman, or his assistant of such danger; and upon leaving the place, he shall place a "warning" at entrance thereto to warn others from inadvertently entering into the danger, and no person shall begin or resume work in such place until it is properly secured under directions of Mine Foreman or his Assistant.

Rule 24. Where instructions are given by the Mine Boss, or his representative, either verbally or by chalk marks where timbers should be set, it shall be the duty of miner to carry out such instructions. This is the safest course to follow, even in cases of dispute, as *SAFETY IS THE FIRST CONSIDERATION* and the "Primary Motto" of this department.

Rule 25. Miners must be careful of material, and must not waste by covering up or otherwise destroying same.

Rule 26. Rules governing the firing of shots must be observed. Where rules govern the firing of shots at stated intervals, the miners must carefully carry out the provision of such rules.

Rule 27. A miner firing shot on the rib—(whether the rib is thick or thin) shall give warning to the miner working on the opposite side of the rib in which such is fired.

Rule 28. When a miner fires a shot, he must not return to examine same within five minutes. He must then examine the roof very carefully in the case of over-charged or flying shot. Posts must be replaced that have been blown out from the effect of shots.

Rule 29. Where two or more holes are to be fired in the same working place, five minutes must elapse between each shot, and the miner's first duty is to examine place before igniting second or any succeeding shots. Failure to do this has been a fruitful source of serious and fatal accidents throughout the State in the past due to the eagerness of the men to get out of the mine as soon as possible.

Rule 30. In drilling out missed shots where powder is used a miner must not use the drill within twelve inches of the cartridge. The last twelve inches shall be removed by use of needle, and in all places where detonating caps are used, the drilling out of the hole is strictly prohibited and a new hole must be drilled.

Rule 31. The needle used in preparing the blast shall be made of copper, and the tamping bar shall be made of wood, or shall be tipped with, at least, five inches of copper. The use of any other tool for tamping is strictly forbidden in any of the mines of this State.

Rule 32. Miners must in no way tamper with electric wires. This means *ALL WIRES*—positive and negative.

Rule 33. Miner must not loiter in entries, on switches, or in other than their working places; and must not interfere with motors, motormen, trip-riders, drivers, machine runners, pumpers, fan men or machinery.

Rule 34. Where coal is under-cut by machinery, miners must not drill rib holes until the cut is made, and in this way, avoid drilling on the solid; as holes on the tight would be considered solid shooting, which is strictly prohibited by law.

Rule 35. In rooms undercut by machinery, there should be a light flanker in the center, or what is known as an opening shot. In many places, miners are shooting their coal without an opening shot, and this is a very dangerous practice, especially where there is heavy draw slate; and many acci-

dents have happened on account of the powder cutting the slate across the face and along rib when rib shots only are fired; while if an opening shot is fired, it gives the miner an opportunity to better care for his place in the way of posting and taking down the slate.

Rule 36. Machine men must not move the machine while the cutter chain is in motion.

Rule 37. When connecting the power cable to electric wires, machine men shall make negative or ground connections before connecting the positive, and when disconnecting the cable, they shall disconnect the positive line before disconnecting the negative or ground.

Rule 38. When the positive feed wires extend into rooms, machine men must connect such wires to the positive wire on the entry before connecting the power cable; and as soon as the power cable is disconnected, shall disconnect wire from wire on the entry. Many accidents are attributable to interference above cited.

Rule 39. Machine men must use care that cables do not make contact with metallic rails of the track, and must avoid, where possible, leaving the cable in water.

Rule 40. Where props which have been placed by a miner for the security of the roof have been removed, machine men must re-set such props as promptly as possible.

Duties of Motormen and Trip-Riders.

Rule 41. Motormen and trip-riders must use care in handling locomotives and cars, and must see that the motor has headlights and that they are kept in good working condition.

Rule 42. On trips where no trip-rider is employed, it is the duty of the motorman to see that a "signal" or "marker" is properly placed on the rear end before starting trip.

Rule 43. Motormen must see that brakes are in good working condition, and must approach all curves, crossings, trap doors and junction points with trip under perfect control.

Rule 44. Motormen must not run the locomotive with trip ahead of locomotive, except in cases where it is unavoidable; and then, only, at a speed that will guarantee the greatest degree of safety, and the extreme limit shall be two miles an hour.

Rule 45. It is the duty of motorman or triprider, where one is employed, to see that no person, or persons, other than those authorized, ride on trips—loaded or empty—except such as are designated by mutual agreement and provided for the transportation of men to and from their work as sanctioned by law.

Duties of Trip-rider—(Rope Haulage.)

Rule 46. The trip-rider in charge of rope haulage trips, shall see that a proper signal, light or marker is attached to rear end of trip, or the end opposite to which he rides before starting the trip; and he shall be governed by the same regulations as govern motormen and trip-riders under Motor and Rope Haulage in Rule 45.

Rules Governing Drivers.

Rule 47. Drivers must not travel in haulage ways with mule while current is on trolley wire.

Rule 48. Drivers must use care in handling cars, especially going down extreme grades, and must have trip under control at curves, trap doors and junction points, either with brakes or sprags.

Rule 49. The drivers must not ride the front end, or between loaded cars.

Rule 50. Where two or more drivers are hauling in the same entries, the second or following drivers must keep continuous lookout for the driver ahead and keep trip under sufficient control to avoid accident.

Rule 51. Drivers must see to it that no one is permitted to ride in empty or loaded cars, except those authorized to do so by Superintendent, Mine Boss or his Assistant.

Rule 52. Trap doors for the assistance of the ventilation of the mine are of no use while standing open, and it is the duty of every person to see that they are kept shut, except when persons or trips are passing through.

Rule 53. All violations of the above rules by Superintendents, Mine Bosses, Mine Foremen or anyone exercising supervisory power or by miners, or any of the employes in and around the mines, shall be reported promptly to J. M. Roan, Chief Deputy and Safety Commissioner, Division of Mines, The Industrial Commission of Ohio, Columbus, Ohio.

PROSECUTIONS FOR VIOLATIONS OF THE MINING LAWS

(561)

VIOLATIONS.

During the year 1914, there were reported to the Department of Mines twenty-four (24) violations of the mining laws resulting in mine officials and miners being prosecuted for same. Twenty-one of these prosecutions were reported by coal companies; two were brought about at the instance of the Deputy Mine Inspectors and one by the Safety Commissioner of Mines.

Causes.

The most serious violations reported were those for removing and going beyond a danger signal; this is indeed a serious violation of law, and one that cannot be too severely dealt with, and the fullest penalty should be assessed for its transgression. These danger signals are placed by the fire boss making his daily round of inspection, and indicate that gas has been found in the localities so marked, and to remove them would be eliminating the very purpose and intent for which they were intended, and a person going beyond them or removing them, would not only be jeopardizing and endangering their own life, but the life of every person employed in the mine. Ten prosecutions resulted from this cause during the year. Jumping and riding on fast running and loaded mine car trips is also another very serious practice met with in mines, and during the year three employes were prosecuted for this violation of the mining laws; for depositing fine coal, in a mine, three violations occurred; depositing refuse from calcium carbide, three; for working under dangerous roof, one; loitering in a mine, one; entering a mine in an intoxicated condition, one; and for riding on a mine car trip without having first signed an agreement as provided by law, one; and for loitering on switches, two persons were prosecuted.

Discipline in and around coal mines should be maintained at any cost, if we are to preserve the life and limbs of those employed in them; and the lack of same has and will result in untold suffering by those who have been left homeless by the thoughtless act of some employe, who has violated some rule or law that has been provided as a safeguard, and his act has resulted in some horrible mine catastrophe, where the lives of hundreds of innocent persons have been sacrificed, due to carelessness and the proper respect for discipline, and we cannot too strongly impress upon the minds of those in charge of the mines of our state, the terrible responsibility resting upon them. The mining laws of our state have made provisions for safety and the protection of employes employed in these mines, and if they will only assist mine man-

agements in, seeing that they are strictly observed, we will have fewer fatal accidents to record, and OHIO will rank as the leading state in the preservation of life and the number of fatalities recorded. The Mining Department stands ready and willing to assist in every possible way to bring about a high standard of efficiency in the operation of mines, but anything short of this can only result in an increase of fatalities, and in this effort, we ask for the full co-operation of mine managements, and every person employed in and around the mines of our state. There are as dangerous mines in our state as are found in other states, and we have been exceedingly fortunate that no catastrophes have occurred which have resulted in destroying the lives of numberless persons; although we have had some explosions which have exacted a toll of as many as fifteen persons. These mine catastrophes should put us all on our guard, and no act should be left undone that would in any way prevent these catastrophes; it is very gratifying to the Department of Mines to state that all measures of safety and suggestions for improvements at the mines of the state, have always been received in a spirit of helpfulness, and mine managements have responded and given us assurances that they would be carried out, and the low mortality for the year, notwithstanding the long suspension in parts of the state, shows that there has been an unusual decrease in the number of fatal accidents which could only be brought about by a strict adherence to rules governing the operation of mines; it also shows that there is an increasing sentiment developing in this Industry, which has for its slogan "Safety First."

NEW MINES OPENED AND MINES SUSPENDED AND ABANDONED
DURING THE YEAR ENDING DECEMBER 31, 1914.

County.	New Mines Opened.	Mines Suspended.	Mines Abandoned.
Athens	C. C. Sharp No. 24. W. P. Rice..... Blue Jay	Sunday Creek 212.. Sunday Creek 311.. Glouster Domestic.. Carbon or Wells... Nixon	Northern Fuel No. 24.
	Robbins	Sunday Creek 201.. Maple Hill	
Belmont	Emergency .....	.....	Nelan. Gallagher. McCoy.
	Taplin .....	.....
Columbiana ..	McNichol	Beech Grove	Big Walnut.
	Sheppard	West Pittsburgh 3. Rock Camp	Prospect Hill No. 7.
Coshocton	Plain View	Conesville No. 4... Davis No. 1..... Warwick No. 5.... Powers	Rock Run. Morgan Run. Arnhold.
	.....	Wade	
	.....	Warwick No. 4....	
Gallia .....	.....	Black Diamond	
Guernsey	Valley No. 2..... Mineral Point	Imperial No. 1....	Valley.
Harrison	Baker .....	.....	Adena.
	North Fork .....	.....
	Adams .....	.....
	Kerr .....	.....
Hocking	Joyce	Prosperity	Escoe No. 2. Royal. Stalters No. 3. Black Diamond 2 & 3. Kachelmacher.
	Nixon-Ervin .....	.....
	
	

**NEW MINES OPENED AND MINES SUSPENDED AND ABANDONED
DURING THE YEAR ENDING DECEMBER 31, 1914—Continued.**

County.	New Mines Opened.	Mines Suspended.	Mines Abandoned.
Jackson	Superior No. 10.... Commercial	Jones & Morgan No. 3.
	.....	Ridgeland
	.....	Victor Royal
	.....	Woodrow No. 1....
	.....	Cameron
	.....	Kessler
	.....	Superior No. 4....
	.....	Armstrong Slope...
	.....	Rhodes & Sell....
	.....	Jackson & Decatur No. 1
Jefferson	Murie	Great Western	Stratton (Middle Works). Rush Run No. 1. Crow Hollow No. 3.
	Ward	Nebo	
	Coal Hill	Jefferson No. 4....	
	Henry Bros.	Plum Run No. 3....	
	Ickes .....	.....
	Union .....	.....
	Edmunds .....	.....
	Lewis .....	.....
	Black & Ashman...	.....
	Kremble .....	.....
Lawrence	York Clay	Black Fork No. 6..	
	Pipe Plant	Buck Horn No. 4....	
	.....	Fienup No. 5....
	.....	Irish Hollow No. 1.
	.....	Orchard Knob Clay
	.....	York Portland Ce- ment
	.....	Lawrence Mill No. 2
	.....	Willard No. 4
	.....	Buck Horn No. 5..
	
Mahoning	Jones-Mackey	
Medina	Harpley	Klondyke	James.
Meigs	Forest Run	
	Russell Run	
	Essex	
	Stalter-Essex	

**NEW MINES OPENED AND MINES SUSPENDED AND ABANDONED
DURING THE YEAR ENDING DECEMBER 31, 1914 — Concluded.**

County.	New Mines Opened.	Mines Suspended.	Mines Abandoned.
Muskingum ...	Turkey Run .....	.....	Stone. Maynard No. 38.
Perry .....	.....	.....	Lilly.
Portage .....	.....	Mullins	Strong.
Stark	Bickel	H. B. Camp No. 3..	National Fire Proof- ing No. 3. Sippo No. 2. Elm Run No. 11. Sausser No. 1.
	Pike Run No. 2....	.....
	Bashford No. 26...	.....
	Bashford No. 27...	.....
	New Minglewood..	.....
	Sausser No. 2.....	.....
	Rice No. 2.....	.....
	Plaskett .....	.....
	Sefert .....	.....
	Zuber .....	.....
Summit	Hill No. 2.....	.....
	Wathey .....	.....
	Jones .....	.....
Tuscarawas ...	.....	F Mine	Twin City.
	.....	New G Mine.....	
Vinton	Lawler No. 7.....	Goode	
	.....	Cardiff No. 3.....	
	.....	Alma Lime 51, 52, 55.....	
	.....	Mohr-Minton Clay.	
	.....	Star No. 2.....	
	.....	Kirkendall	
	.....	Puritan No. 4.....	
Wayne	Myers No. 26.....	.....	Mass. Coal Min. Nos. 21 and 22.
	Hametown No. 2...	.....

DETAILED LIST OF MINES GENERATING LIGHT CARBURETED
HYDROGEN GAS.

County.	Name of Mine.		
Athens	Canaanville .....	.....	Luhrig No. 1.
	New Pittsburgh No. 9. ....	.....	Luhrig No. 2.
	New Pittsburgh No. 10 .....	.....	Luhrig No. 3.
	Sunday Creek No. 10. ....	.....	Sunday Creek No. 201.
	Sunday Creek No. 210 .....	.....	Sunday Creek No. 209.
	Sunday Creek No. 211 .....	.....	Sunday Creek No. 212.
	Sunday Creek No. 254 .....	.....	Sunday Creek No. 255.
	Sunday Creek No. 256 .....	.....	Sunday Creek No. 266.
	Sunday Creek No. 267 .....	.....	Sunday Creek No. 275.
	Sunday Creek No. 281 .....	.....	Sunday Creek No. 311.
	Sunday Creek No. 312 .....	.....	Hisylvania No. 22.
	Poston No. 6 and 7... ..	.....	Hisylvania No. 23.
Belmont	Pittsburgh Belmont No. 3 .....	.....	Wheeling Creek No. 2.
	Carnegie Mill .....	.....	Captina.
	Clifford .....	.....	Delora.
	Eleanor .....	.....	Johnson.
	Rail & River No. 3... ..	.....
Columbiana ...	Delmore	Neiheisel	Garside.
Guernsey	Banner	Blue Bell.....	Trail Run No. 1.
	Walhonding No. 2....	Ideal	Trail Run No. 2.
	Little Kate No. 1....	Buffalo	Minnehaha.
	Little Kate No. 2....	Black Top.....	Cleveland.
	Imperial No. 1.....	Hartford	Forsythe.
	Puritan	Klondyke	Harryette.
Hocking	New Pittsburgh No. 7. ....	.....	Sunday Creek No. 10X
Jackson	Domestic	Globe	Elk Fork No. 2.
	Superior No. 9.....	Superior No. 12.	Wainwright.
Jefferson	LaBelle	High Shaft.....	Connor No. 2.
	West Pittsburgh No. 1	Amsterdam	West Pittsburgh 2.
	Elizabeth .....	.....
Mahoning ....	.....	Lowellville	
Noble	Laura	Caldwell	O'Gara No. 34.
Perry	San Toy No. 1.....	.....	San Toy No. 2.

PERMANENT IMPROVEMENTS MADE IN THE COAL MINES OF OHIO
DURING THE YEAR ENDING DECEMBER 31, 1914, INCLUSIVE.

County.	Number of.									
	Furnaces.	Fans.	Air Shafts.	2nd Openings.	Additional Openings.	Safety Catches.	Stairways.	Speaking Tubes.	Ventilating Baskets.	Underground Stables.
Athens	2	11	4	3	2	.....	.....	1	.....	23
Belmont	1	2	.....	1	3	.....	.....	.....	.....	7
Carroll .....	.....	3	.....	1	1	.....	.....	.....	.....	5
Columbiana .....	.....	1	.....	1	.....	.....	.....	.....	.....	2
Coshocton	5	.....	6	9	.....	.....	5	.....	.....	25
Erie .....	.....	.....	.....	.....	.....	1	.....	1	.....	2
Gallia .....	.....	.....	.....	.....	1	.....	.....	.....	.....	1
Guernsey .....	.....	4	.....	4	.....	.....	1	.....	.....	9
Harrison	1	1	3	1	.....	.....	2	.....	1	9
Hocking	5	1	.....	1	7	.....	.....	.....	.....	14
Holmes .....	.....	.....	2	2	.....	.....	2	.....	.....	6
Jackson .....	.....	.....	.....	1	1	.....	.....	.....	.....	2
Jefferson	2	5	6	9	6	.....	4	1	.....	33
Lawrence	1	1	1	2	1	.....	1	1	.....	8
Mahoning .....	.....	.....	.....	.....	.....	.....	1	.....	.....	1
Medina .....	.....	.....	.....	.....	.....	.....	3	.....	.....	3
Meigs .....	.....	5	.....	2	3	.....	.....	.....	.....	10
Morgan .....	.....	.....	.....	.....	1	.....	.....	.....	.....	1
Muskingum .....	.....	1	.....	1	.....	.....	.....	.....	.....	2
*Ottawa .....	.....	.....	.....	.....	.....	1	.....	.....	.....	1
Perry .....	.....	2	.....	.....	4	.....	.....	1	.....	7
Scioto .....	.....	1	.....	.....	1	.....	.....	.....	.....	2
Stark	2	3	5	9	8	3	10	4	.....	44
Summit .....	.....	.....	1	2	.....	.....	2	.....	.....	5
Tuscarawas	1	5	6	5	.....	.....	4	.....	.....	21
Vinton .....	.....	1	.....	1	.....	.....	.....	.....	.....	2
Wayne .....	.....	.....	2	2	1	.....	1	.....	.....	6
Total	20	47	36	57	40	5	36	9	1	251

* Gypsum mines.

PERMANENT IMPROVEMENTS MADE IN THE COAL MINES OF OHIO
DURING THE YEAR 1914, ENDING DECEMBER 31. BY DISTRICTS.

Districts.	Number of.									
	Furnaces.	Fans.	Air Shafts.	2nd Openings.	Additional Openings.	Safety Catches.	Stairways.	Speaking Tubes.	Ventilating Baskets.	Underground Stables.
First	1	3	1	4	3	.....	1	1	.....	.....
Second	5	6	.....	4	12	.....	.....	.....	.....	.....
Third	2	11	4	2	1	.....	1	.....	.....	.....
Fourth .....	.....	1	.....	1	.....	.....	.....	.....	.....	.....
Fifth .....	.....	4	.....	4	.....	.....	1	.....	.....	.....
Sixth	6	8	12	15	.....	.....	9	.....	.....	.....
Seventh	2	3	10	15	9	5	17	6	.....	.....
Eighth	3	3	9	10	4	.....	6	.....	1	.....
Ninth .....	.....	1	.....	.....	1	.....	.....	.....	.....	.....
Tenth	1	1	.....	1	2	.....	.....	.....	.....	.....
Eleventh .....	.....	2	.....	.....	5	.....	.....	1	.....	.....
Twelfth .....	.....	4	.....	1	3	.....	1	1	.....	.....
Total	20	47	36	57	40	5	36	9	1	.....
										251

TABLE SHOWING TOTAL NUMBER AND KIND OF SCALES TESTED
IN EACH COUNTY; ALSO NUMBER FOUND CORRECT AND NUM-
BER FOUND INCORRECT DURING THE YEAR 1914.

County.	Total Number of Scales Tested.	Railroad.		Platform.		Hopper.	
		Correct.	Incorrect.	Correct.	Incorrect.	Correct.	Incorrect.
Athens	9	2	1	4	.....	2	.....
Belmont	2	.....	.....	.....	.....	2	.....
Columbiana	2	.....	.....	.....	.....	1	1
Guernsey	2	.....	.....	1	1	.....	.....
Hocking	3	.....	.....	.....	1	2	.....
Jackson	2	.....	.....	.....	.....	2	.....
Jefferson	7	.....	.....	1	.....	6	.....
Noble	1	.....	.....	.....	.....	1	.....
Perry	4	.....	1	.....	.....	3	.....
Stark	13	.....	.....	7	2	4	.....
Summit	1	.....	.....	.....	.....	1	.....
Wayne	3	.....	.....	1	.....	2	.....
Total	49	2	2	14	4	26	1

Total railway scales tested.....	4
Percent found correct.....	50
Percent found incorrect.....	50
Total platform scales tested.....	18
Percent found correct.....	78
Percent found incorrect.....	22
Total number hopper scales tested.....	27
Percent found correct.....	96
Percent found incorrect.....	4
Percent found correct of all scales tested.....	86
Percent found incorrect of all scales tested.....	14
Number of scales tested.....	49
Number scales found correct.....	42
Number scales found incorrect.....	7

OIL AND GAS WELLS.

Number of Applications for Permission to Drill, Number of Wells Mapped and
Number of Wells Plugged and Abandoned During the Year Ending
December 31, 1914.

County.	Applications for Permission to Drill Wells.	Wells Mapped.	Wells Plugged and Aban- doned.
Athens	6	11	13
Belmont	49	59	33
Carroll	18	19	3
Columbiana	64	62	16
Coshocton	8	10	2
Gallia	1	2	.....
Guernsey	6	3	4
Harrison	15	26	3
Hocking	95	132	14
Holmes	1	1	.....
Jefferson	33	125	38
Lawrence	1	1	.....
Mahoning	25	24	8
Medina	50	59	2
Meigs	8	9	3
Monroe	70	97	51
Morgan	13	8	14
Muskingum	13	19	3
Noble	28	46	12
Perry	71	145	25
Summit	1	.....	.....
Tuscarawas	17	10	3
Vinton	6	5	1
Wayne	108	107	12
Total.....	707	980	260

NUMBER OF VISITS TO MINES IN THE STATE BY THE DEPUTY INSPECTORS IN THE VARIOUS COUNTIES
JANUARY 1, 1914, TO DECEMBER 31, 1914.

County.	1st District.	2nd District.	3rd District.	4th District.	5th District.	6th District.	7th District.	8th District.	9th District.	10th District.	11th District.	12th District.	Total.
Athens	9	28	188					5	109	177	3	3	228
Belmont												8	294
Carroll						24						88	32
Columbiana													89
Coshocton				9		82							91
Erie							4						4
Gallia		20											20
Guernsey					108								129
Harrison						2		37	4	17			46
Hocking		136							7				136
Holmes							20						20
Jackson	151	4	3				3		1	4	3	1	170
Jefferson								157	22	1		62	242
Lawrence	59										2		61
Mahoning												6	6
Medina							14						14
Meigs		65											65
Monroe					5								5
Morgan				2							9		11
Muskingum				99									99
Noble					43					2			45
Ottawa							12						12
Perry		6	5	25			4	5	3	4	110	3	165
Portage							10						10
Scioto	15												15
Stark							171						171
Summit							15						15
Tuscarawas						108							108
Vinton	7										10		17
Wayne							30						30
Total	241	259	196	135	156	216	283	204	146	205	137	172	2,350

VISITS MADE TO MINES BY THE DISTRICT MINE INSPECTORS IN
OHIO DURING THE YEAR ENDING DECEMBER 31, 1914, BY
DISTRICTS.

Districts.	Visits to Mines.	Districts.	Visits to Mines.
First	241	Seventh	283
Second	259	Eighth	204
Third	196	Ninth	146
Fourth	135	Tenth	205
Fifth	156	Eleventh	137
Sixth	216	Twelfth	172
		Total.....	2,350

VISITS TO MINES; FATAL ACCIDENTS INVESTIGATED; DAYS
SPENT IN OIL FIELDS AND ABANDONMENT OF OIL WELLS
WITNESSED.

County.	Visit to Mines.	Total Accidents Investigated.	Abandonment of Oil Wells Witnessed and Days Spent in Oil Fields.	Total.
Athens	228	2	5	235
Belmont	294	17	45	356
Carroll	32	.....	2	34
Columbiana	89	.....	11	100
Coshocton	91	.....	.....	91
Erie	4	.....	.....	4
Gallia	20	.....	.....	20
Guernsey	129	9	.....	138
Harrison	46	1	13	60
Hocking	136	1	18	155
Holmes	20	.....	1	21
Jackson	170	6	.....	176
Jefferson	242	9	50	301
Lawrence	61	.....	.....	61
Mahoning	6	.....	.....	6
Medina	14	.....	49	63
Meigs	65	5	2	72
Monroe	5	.....	21	26
Morgan	11	.....	10	21
Muskingum	99	.....	9	108
Noble	45	.....	10	55
Ottawa	12	.....	.....	12
Perry	165	5	18	188
Portage	10	1	.....	11
Scioto	15	.....	.....	15
Stark	171	4	.....	175
Summit	15	.....	1	16
Tuscarawas	108	1	4	113
Vinton	17	1	.....	18
Wayne	30	.....	97	127
Total	2,350	62	366	2,778

PART TWO

DETAILED REPORT OF THE WORK OF THE DISTRICT INSPECTORS IN 1914

(577)

FIRST DISTRICT

JOHN BURKE, INSPECTOR.
WELLSTON, OHIO.

COMPOSED OF THE COUNTIES OF GALLIA, LAWRENCE, JACKSON, SCIOTO
AND VINTON.

(579)

MR. J. M. ROAN, *Chief Deputy Inspector and Safety Commissioner of Mines, Columbus, Ohio:*

DEAR SIR:—In compliance with the mining laws, I here submit to you my annual report of the First Mining District of Ohio, from Jan. 1st, 1914, to Dec. 31st, 1914.

During that time fourteen permanent improvements were made, consisting of three fans, one furnace, one airshaft, four second openings, three additional openings, one stairway and one speaking tube.

Three new mines were opened, thirty remained suspended and one was abandoned during the time covered by this report.

I regret to report seven fatal accidents during the year. Wm. Martin was injured in the Superior No. 9 mine on Jan. 24th and died Feb. 9th. He was struck by an iron pipe which he braced between a mining machine and truck to move the machine from the truck, the pipe slipped and struck him, causing injuries which resulted fatally.

Jas. Monroe was injured on July 24th by a fall of roof in a small opening, which caused his death on Oct. 9th.

Jno. Monk was killed in the Price mine on Nov. 5th by a fall of roof while robbing entry pillars.

Geo. Rawlins, a boy 16 years of age, was killed Nov. 5th by a fall of roof in a small domestic opening near Oak Ridge furnace in Lawrence County.

Chas. Smith was killed by a fall of roof in Superior No. 12 mine, Nov. 17th.

Frank Stiffler was killed by fall of roof Nov. 21st in Harper mine.

Frank Goodrich was killed by fall of roof in Goodrich mine, Nov. 28th.

A number of the mines in Jackson County are nearly exhausted and are experiencing considerable trouble on account of water. If the coal trade was normal during the year, several of them would have been abandoned, but owing to the poor demand for coal, several did not operate over one-fourth time, while others remained suspended during the entire year.

In conclusion I wish to say that my relations with both miners and operators, with few exceptions, have been as pleasant as could be expected, and thank you and other members of the Division of Mines, including the office force, for advice given and courtesies shown during the year.

Respectfully yours,

JOHN BURKE,

Deputy Mine Inspector, First Mining District.

December 31st, 1914.

JACKSON COUNTY.

The following mines are owned and operated by the Superior Colliery Co., Detroit, Mich., A. J. Laverty, Wellston, O., Supt.

Superior No. 3.

Located two miles northwest of Wellston on the B. & O. S. W. Ry. Jno. T. Claar, Coalton, O., mine foreman. Shaft opening, 47 ft. deep. No. 2 seam, 4 ft. thick, fan ventilation, employs 13 miners and 10 day hands.

Sept. 5th. Entry pillars were being robbed on the north; south side was suspended.

Nov. 20th. Entry pillars were being robbed on 2nd east and west side entries; north side of mine suspended. A large amount of loose slate was lying on timbers close to the bottom of the shaft; ordered it securely timbered or taken down.

Superior No. 9.

Located three miles southeast of Wellston on the C. H. & D. Ry. Theodore Waters, mine foreman, succeeded by Richard Samuels, Sr., both of Wellston, O.

Shaft opening 158 ft. deep. No. 2 seam $2\frac{1}{2}$ to 4 ft. thick; fan ventilation; pick and machine mining; electric and mule haulage; employs 28 pick miners, 8 machine runners, 43 loaders and 45 day hands.

Feb. 10th. Investigated fatal accident to Wm. Martin, who was injured on Jan. 24th and died on Feb. 9th.

Feb. 25th. Found the ventilation satisfactory; electric feed wires on main south entry were not in compliance with the law and ordered them put in lawful position.

Aug. 11th. Having been notified that the tippie had been destroyed by fire, on arriving at the mine found it completely burned down and a large amount of debris burning at the bottom of the shaft. A stream of water from a tank on the surface was thrown into the shaft to check the fire until the arrival of a fire engine and hose from the Jackson Fire Department, which was placed in position at noon; a continual stream of water was thrown on the fire until 7 p. m., when apparently it was under control. On the morning of the 12th the fire was found to have extended to the timbers on the bottom on the north side of the shaft and called on Mr. Roan, Chief Deputy Inspector, for assistance. He and Mr. Davies, Assistant Chief Inspector, arrived with the mine rescue car at 1 p. m.; entered the mine and ordered the hose taken down the slope and through the main north entry to the fire; from this position a stream was thrown on it for three hours when it was gotten under control. A force of men was then sent in to reinforce the timbers in the run-a-round to make it safe in case it would be necessary to carry the hose on the south side of the mine. On the 13th all of the Deputy Inspectors which Mr. Roan called on for assistance arrived, and the fire area was examined; found the coal on fire between the shaft and main airway on the south side, which was extinguished by water thrown from the north side. On the 14th a close examination was made in company with the other Deputy Inspectors, of the fire area on all sides, and found no fire.

Mr. Laverty, Supt; Mr. Samuels, mine foreman, and other employes rendered valuable assistance in fighting the fire.

Oct. 19th and 24th. Found the north side of mine in operation and ventilated by a fan installed at the slope; south side was not working on account of water in the workings, which accumulated since the pumps are put out of commission

by the fire on Aug. 11th. Ordered the following improvements: Construct refuge holes on 9th east motor haul; increase the volume of air at the intake sufficient to ventilate north and south workings.

Oct. 27th. Visited in company with Mr. Davies, Asst. Chief Deputy Inspector; ordered the temporary wooden stopping at bottom of shaft repaired; trolley wires guarded over all traveling ways and speaking tube installed in shaft.

Dec. 1st. Found broken timber on north haulage way and loose roof near north pillar workings, which was ordered to be timbered.

Dec. 14th. Visit was made to note increase in the volume of air at the intake, since the operation of the fan at the slope was suspended and mine ventilated by fan at main opening. No further inspection was made.

Superior No. 11.

Located eight miles southeast of Wellston on the C. H. & D. Ry. P. J. Varley, Wellston, O., mine foreman. Drift opening, No. 5 seam, 3½ ft. thick; fan ventilation; machine mining; electric and mule haulage; employs 16 machine runners, 73 loaders and 36 day hands.

Feb. 6th. Found the ventilation and general condition satisfactory.

July 29th. Ventilation deficient in working places on 9th west entry. Ordered the air current conducted into these places.

Oct. 1st. Ordered refuge holes constructed on 6th east motor haul and artificial ventilation in the two openings northeast of main opening.

Nov. 9th. Ordered the electric feed wires on the surface between No. 1 and 2 openings guarded.

Superior No. 12.

Located three miles east of Wellston on the D. T. & I. Ry., the mine has been in charge of four mine foremen during the year. Wm. Pollock, Wm. Corkery, J. W. Smith and W. R. Davis were in charge of the mine in the order named, all were residents of Wellston, with the exception of W. R. Davis, who resides at Berlin Cross Roads, O. Shaft opening, No. 2 seam, 2 to 3 ft. thick; pick and machine mining; fan ventilation; employs 10 pick miners, 4 machine runners, 17 loaders and 14 day hands.

Feb. 11th. Found loose roof on main south haulageway and break throughs in several working places choked up with fall of roof. Ordered the loose roof taken down or timbered and break throughs opened up. Also ordered the boards removed from the electric feed wires and same placed in lawful position.

March 17th. The volume of air at the workings on the south entry was deficient, the result of the return airway on the south being choked with falls of roof. Several of the timbers on siding near bottom of the shaft were broken by the weight of loose stone lying on them. Ordered the falls of roof removed from the return airway and siding near bottom of shaft timbered.

Aug. 21st and 22nd. Found the ventilation on all entries on the west side deficient and timbering near bottom of shaft not completed. Ordered the work completed at once.

Nov. 5th. Found the timbering completed, mine foreman promised to put a force of men in the main airway to remove falls of roof. Ordered loose roof taken down on main south entry and west cutoff.

Nov. 17. Visit was made to investigate the death of Chas. Smith, who was killed by a fall of roof and timbers on the east side of the mine.

Domestic.

Located two miles east of Wellston on the D. T. & I. Ry. Operated by the Domestic Coal Co., Wellston, O. H. A. Goddard, Supt.; Calvin Littlejohn, mine

foreman; both of Wellston, O. Shaft opening, 97 ft deep; No. 2 seam, $3\frac{1}{2}$ ft. thick; machine mining; electric and mule haulage; employs 6 machine runners, 49 loaders and 41 day hands.

Feb. 5th. Found fire protection installed in the tippie, second traveling way from 1 and 2 west N. entries to slope completed and stoppings constructed of slate and cement built in several break throughs on the main inlet and outlet, which has improved the ventilation.

Aug. 18th. Found the ventilation on 5 and 6 E. N. entries deficient, tested the safety catch on the east cage; it failed to hold. Orders were given to increase the volume of air on 5 and 6 east entries and allow no person to use the cage until the safety catch was put in lawful condition.

Dec. 2nd. Found the ventilation satisfactory on 5 and 6 east entries, with the exception of No. 14, 15 and 16 rooms on 6th, in which the air was deficient; ordered the ventilation conducted into these places.

Wellston Colliery.

Located two miles east of Wellston, transportation, C. H. & D. Ry. Operated by the Wellston Collieries Co., Wellston, O. W. S. McCloud, Supt.; Jno. H. Yeager, mine foreman; both of Wellston O. Shaft opening, 89 ft. deep. No. 2 seam, 2 to 3 ft. thick; pick and machine mining; electric and mule haulage; fan ventilation; employs 3 pick miners, 8 machine runners, 40 loaders and 23 day hands.

Jan. 3d. Found twelve men who were not provided with boxes for blasting powder; ordered the law complied with at once.

March 18th. Found the general condition of the mine satisfactory with the exception of the electric motor haul, which had not the required number of refuge holes to comply with the law. Ordered refuge holes constructed.

Aug. 28th. Found the break-throughs in the rooms choked up with bottom slate which was taken up to make mule height. The construction of refuge holes on the electric motor haul was not completed. Ordered all break-throughs opened up and refuge holes completed. Gave 10 days to complete the improvements.

Wainwright.

Located three miles southeast of Wellston, transportation, C. H. & D. Ry. Operated by the Jackson Mining Co., Wellston, O., succeeded by the Maynard Coal Co., Columbus, O. Chas. Morrow, Supt., succeeded by Theodore Water; John Cooke, mine foreman, succeeded by Richard Samuels, Jr., all of Wellston, O. Shaft opening, 96 ft. deep. No. 2 seam, 2 to $3\frac{1}{2}$ ft. thick; pick and machine mining; electric and mule haulage; fan ventilation; employs 7 pick miners, 6 machine runners, 84 loaders and 30 day hands.

Jan. 2nd. Ordered stoppings constructed of non-perishable material built in all breakthroughs on main inlet and outlet.

Aug. 17th. General condition satisfactory, with the exception of not complying with the order to build non-perishable stoppings and no safety holes on the electric motor haul which was extended on the south entries. Ordered the refuge holes made and stoppings in break-throughs. 10 days was given to complete the refuge holes and 40 days to complete the stoppings.

Nov. 17th. Found the stoppings completed; several of the refuge holes made under the former management were not the proper size. Ordered them enlarged; also ordered trolley wire guarded over traveling ways near bottom of slope and 4th east S. entry. Otherwise the general condition of the mine was satisfactory.

Elk Fork No. 2.

Located three miles southeast of Wellston on the D. T. & I. Ry. Operated by the Elk Fork Coal Co., Wellston, O. Geo. B. Davis, Supt.; W. B. Montgomery, mine foreman; both of Wellston, O. Shaft opening, 126 ft. deep. No. 2 seam, 28 in. thick; machine mining; electric haulage and fan ventilation; employs 10 machine runners, 50 loaders and 25 day hands.

Visited Feb. 16th and July 27th. Found in satisfactory condition on both visits.

Browne No. 2.

Located on the Iron Valley switch, D. T. & I. Ry. Operated by the Browne Coal Co., Wellston, O. J. H. Browne, Supt.; David Souders, mine foreman. Slope opening, 91 ft. long. No. 5 seam, 32 in. thick; machine mining; electric and mule haulage; fan ventilation; employs 10 machine runners, 58 loaders and 32 day hands.

Jan. 14th. Found in poor condition. The break-throughs, with few exceptions, were choked up with slate and bottom dirt. Ordered break-throughs opened up; trolley and electric feed wires placed in position to comply with the law and refuge holes constructed on north motor haul.

Aug. 29th. Mine had just resumed operation, being idle since March 31st. Ordered electric feed wires on south entries placed in lawful position.

Nov. 25th. Found loose roof near the face of 2nd west S. entry. The electric motor haul was extended on the same entry without refuge holes. Orders were given to take down the loose roof and construct refuge holes.

Mohawk.

Located eight miles southeast of Wellston on the C. H. & D. Ry. Operated by The Mohawk Coal Co., Wellston, O. John A. Lockhard, Supt.; E. J. Gentry, mine foreman, both of Wellston, O. Drift opening, No. 5 seam 4 ft. thick; pick mining and fan ventilation; employs 60 miners and 21 day hands.

Aug. 24th. Ordered the governor wheel of the gasoline engine which operates the fan, guarded.

Oct. 31st. Mine found idle, no inspection made.

Milton No. 1.

Located near Wellston on the B. & O. S.-W. Ry. Operated by the Milton Mining Co., Wellston, O. Herbert Poore, Supt.; Robt. Pope, mine foreman, both of Wellston, O.

Shaft opening 23 ft. deep, No. 2 seam, 3 ft. thick, fan ventilation. Employs 23 miners and 7 day hands.

Jan. 26th and *Sept.* 18th. Found in satisfactory condition.

Allburn.

Located near Wellston on the H. V. Ry. Operated by the Allburn Coal Co., Wellston, O. Samuel R. Poole, Glenroy, O. Supt. and mine foreman. Slope opening 143 ft. long; No. 2 seam 2 to 3 ft thick; fan ventilation; employs 14 miners and 7 day hands.

Jan. 26th. Mine found idle, no inspection made.

March 11th. Ventilation and general condition of the mine was satisfactory. Several of the boxes that the miners kept their powder in, were poorly constructed, ordered new boxes.

Aug. 25th. Found the breakthroughs in several of the working places choked up with bottom slate which is taken up to make height for the mules. Ordered all breakthroughs opened up.

Globe.

Located near Jackson on the B. & O. S.-W. Ry. Operated by the Globe Iron Co., Jackson, O. John E. Jones, Supt.; Ross L. Lewis, mine foreman, both of Jackson, O. Shaft opening 103 ft. deep; No. 1 seam 3 ft. 8 in. thick; machine mining; electric and mule haulage; fan ventilation; employs 6 machine runners, 37 loaders and 13 day hands.

Jan. 5th. Found in satisfactory condition.

Mar. 5th. Ventilation found satisfactory in all working places with exception of one room on 4th east N. entry, in which a breakthrough was necessary. Second opening was in poor condition, with ice on the stairway. Orders were given to place marker on the motor trip and whitewash refuge holes. Mine foreman promised to have the ice removed from the stairway in the second opening at once.

Aug. 31st. Found in satisfactory condition with the exception of the stairway in the second opening, dirt and slate covered a great many of the steps, which was ordered removed.

Nov. 17th. Tested the safety catch on the cage, it failed to hold. Ordered it put in lawful condition.

Jackson Iron and Steel.

Located two miles west of Jackson on the D. T. & I. Ry. Operated by the Jackson Iron & Steel Co., Jackson, O. Jas. Morgan, Supt.; David W. Ridge, mine foreman, both of Jackson, O. Shaft opening 50 ft. deep; No. 1 seam 3 ft. thick; fan ventilation; employs 32 miners and 14 day hands.

Jan. 6th. Ordered loose roof taken down or timbered on 2 west entry.

Apr. 20th. Found in satisfactory condition. The mine was idle during the greater part of the year.

The following mines are owned and operated by the Chapman Coal Co., Jackson, O. Jno. E. Hayes, Chapman, O., Supt.

Grace.

Located on Ada switch, D. T. & I. Ry., Frank Pierpont, Wellston, O. Mine foreman succeeded by Jas. Tipton, Glenroy, O. Shaft opening, 100 ft. deep, No. 2 seam 3 ft. thick; machine mining; electric and mule haulage; fan ventilation; employs 8 machine runners, 34 loaders and 35 day hands.

Mar. 31st. Found idle, no inspection made.

Sept. 3d. Ordered loose roof taken down or timbered in working place on main east entry, stairway in second opening repaired and refuge holes on main east motor haul whitewashed.

Oct. 26th. Visit was made to investigate the death of Ammon Coffman who died in the mine.

Chapman.

Located near Chapman Sta., D. T. & I. Ry. Jacob Houser, Chapman, O., mine foreman. Drift opening, No. 2 seam 32 in. thick; single entry system; fan ventilation; employs 26 miners and 18 day hands.

Jan. 7th. Found the rooms on the south side of 1st east, which is the intake airway and second traveling way for the entry, caved in, reducing the

volume of air and putting the second traveling way out of commission. Ordered it opened up and made safe for traveling.

Sept. 22nd. Found the ventilation deficient on 1st east entry, ordered the volume of air increased.

Dec. 3d. Mine found idle with the exception of a force of men working on a second traveling way from 1st east entry, falls of roof having practically put the original traveling way out of commission.

Springfield.

Located on Springfield Switch, D. T. & I. Ry. W. J. Eisnaugle, Chapman, O., mine foreman. Shaft opening 24 ft. deep; No. 2 seam 3 ft. thick; fan ventilation; employs 18 miners and 11 day hands.

Feb. 3d. Mine found idle.

Sept. 19th. Found in satisfactory condition; all the solid coal is worked out and the entry pillars are being robbed.

Victor No. 4.

Located near Coalton on the C. H. & D. Ry. Operated by T. J. Evans, Coalton, O. Edward T. Evans, Supt.; Harvey Kiser, mine foreman, both of Coalton, O. Drift opening, No. 2 seam 28 in. thick; fan ventilation; employs 27 miners and 13 day hands.

Feb. 12th. Found in satisfactory condition.

Sept. 11th. Mine found idle, no inspection made.

Emma No. 3.

Situated on Springfield switch, D. T. & I. Ry. Operated by the Emma Coal Co., Jackson, O. Edwin Jones, Supt.; Jno. D. Richards, mine foreman, both of Jackson, O. Drift opening, No. 2 seam 3 ft. thick; furnace ventilation; employs 24 miners and 12 day hands.

Sept. 14th. Found the ventilation deficient in working places on east entry, ordered the air current conducted into those places.

Emma No. 4.

Located two miles west of Coalton on the C. H. & D. Ry. Operated by the same company. Jno Rockwell, Glenroy, O., mine foreman. Drift opening, No. 2 seam 2½ ft. thick; furnace ventilation; employs 21 miners and 7 day hands.

Mar. 13th. Found the haulageway in poor condition with mud and water, removed the men working at the face of 1st west entry, which was over the lawful limit, in advance of the air current. Ordered loose slate taken down or timbered on haulageway.

Sun No. 1.

Situated three miles west of Jackson on the D. T. & I. Ry. Operated by the Sun Coal Mining Co., Jackson, O. Sherman Walker, same place, in charge of the mine. Drift opening, No. 1 seam 2½ ft. thick; fan ventilation; employs 2 miners and 1 day hand.

Feb. 27th. Ordered loose roof taken down or timbered on main haulageway.

Oct. 5th. Ordered loose stone taken down on the roadway near the pillar workings.

Sun No. 2.

Operated by same company and under the same management. Drift opening, No. 1 seam 3 ft. thick; fan ventilation; employs 26 miners and 11 day hands.

Feb. 27th. Found the volume of air decreased at the face of all entries and ventilation poor in the working places.

Oct. 5th. The volume of air at the intake was reduced.

Oct. 20th. Mine found idle, no inspection made.

McKitterick No. 1.

Located near McKitterick Sta., C. H. & D. Ry. Operated by the Jackson and W. Va. Fuel Co., Oak Hill, O. Edward Brohard, same place, in charge of the mine. Drift opening, No. 5 seam $3\frac{1}{2}$ ft. thick; furnace ventilation; employs 5 miners and 1 day hand.

Dec. 31st. Mine found idle, no inspection made, mine was idle the greater part of the year.

McKitterick No. 2.

Located at McKitterick Sta. Operated by the same company and under the same management. Drift opening, No. 5 seam 4 ft. thick; furnace ventilation; employs 36 miners and 10 day hands.

Feb. 9th. Ordered loose roof taken down on 4th west entry.

Mar. 5th. The volume of air was deficient at the intake for the number of men and animals working inside; loose roof was found on 2d and 3d west entries, order was given to take it down. Order was also given to increase the height of the stack on the furnace shaft.

July 22d. With the exception of the haulageway, which was in a wet and muddy condition, the mine was in a satisfactory condition.

Nov. 4th. Found in satisfactory condition.

Harper.

Situated on Ada switch, D. T. & I. Ry. Operated by the Harper Coal Co., Coalton, O. Jno. E. Harper, Supt.; J. C. Rowe, mine foreman, both of Coalton, O. Slope opening 125 ft. long, No. 2 seam 34 in. thick; fan ventilation; employs 10 miners and 6 day hands.

Mar. 6th. Ordered refuge holes constructed and whitewashed in slope.

Sept. 4th. Found in satisfactory condition.

Nov. 21st. Visit was made to investigate the death of Frank Stiffler, who was killed by a fall of roof.

Sloan.

Located on Ada switch, D. T. & I. Ry. Operated by the C. A. Sloan Coal Co., Jackson, O. C. A. Sloan, Supt.; M. M. Morgan, mine foreman, both of Jackson, O. Shaft opening 55 ft. deep, No. 2 seam 3 ft. thick; fan ventilation; employs 14 miners and 4 day hands.

Mar. 6th. Ordered loose roof taken down or timbered on haulageway near bottom of the shaft.

Dec. 8th. Ordered brattice cloths on room necks taken down and replaced with doors.

Lucy No. 3.

Located on Armstrong switch, D. T. & I. Ry. Operated by the Armstrong Coal Co., Jackson, O. John Armstrong, same place, Supt.; Guy Sell, Chapman, O., mine foreman. Drift opening, No. 2 seam 32 in. thick; furnace ventilation; employs 10 miners and 4 day hands.

Oct. 3d. Found in satisfactory condition.

Rhodes.

Located near Coalton. Operated by the Coalton Mining Co., Coalton, O. Wm. Rowe, Supt.; Jno. Rhodes, mine foreman, both of Coalton. Drift opening, No. 2 seam 2 ft. thick; furnace ventilation; employs 20 miners and 2 day hands.

Feb. 26th. Found the electric power from the Jackson & Wellston Belt Ry., with a potential of 550 volts installed in the mine. Ordered the voltage reduced to potential allowed by the mining laws or remove it from the mine.

Dec. 23d. The ventilation was deficient on the right entry, due to leakage in the stoppings; no provisions were made for injured persons at the mine in providing blankets, stretcher and other first aid supplies. Ordered a sufficient volume of air conducted through all working places, blankets, stretcher, bandages and linen, provided and kept in a dry and sanitary place at the mine.

Price.

Located at Price's switch, D. T. & I. Ry. Operated by W. A. Gosline & Co., Toledo, O. J. C. Hurd, Supt.; Arthur Mapes, mine foreman, both of Jackson, O. Drift opening, No. 2 seam 26 in. thick; furnace ventilation; employs 10 miners and 1 day hand.

March 19th. Ordered blankets, stretchers, bandages and linen provided and kept at the mine.

Sept. 30th. Found in fair condition.

Nov. 6th. Visited the mine to investigate the death of Jno. Monk, who was killed by a fall of roof, while drawing pillars.

Pastor No. 2.

Located near Lincoln Fce., on the D. T. & I Ry. Operated by the Kelly Coal Co., Wellston, O. H. P. Kelly, Supt.; Chas. Newland, mine foreman, both of Wellston. Drift opening, No. 4 seam 4 ft. thick; fan ventilation; employs 25 miners and 7 day hands.

Feb. 18th. Found the ventilation fair, haulageway in poor condition, with mud and water and loose roof in 1st and 2d west entries, which was ordered to be taken down or timbered. Mine was idle the greater part of the year.

Davis F. B.

Located near Oak Hill on the B. O. & S. W. Ry. Operated by the Davis Fire Brick Co., Oak Hill, O. Evan E. Davis, Supt.; John Herbert, mine foreman, both of Oak Hill. Drift opening into the No. 5 seam of coal and clay overlying the coal, thickness of coal 2½ ft.; clay 2 ft.; furnace ventilation; employs 12 miners and 3 day hands.

Jan. 30th. Ordered loose roof on the main haulageway taken down or timbered.

Apr. 14th. Found considerable loose roof on main and 7th and 8th entries, which was ordered to be taken down.

June 27th. Found in poor condition, the haulageway was almost impassable with mud and water and loose and dangerous roof in several places on the traveling ways. Ordered props with crosscaps set on the haulageways at all points that have slate roof.

Dec. 9th. Mine found idle, no inspection made.

Thomas Davis.

Located near Oak Hill on the B. & O. S.-W. Ry. Operated by the Jackson Coal Co., Oak Hill, O. Murley Bates, same address in charge of the mine.

Drift opening, No. 4 seam 4 ft. thick; furnace ventilation; employs 19 miners and 3 day hands.

Jan. 19th. Found the ventilation weak on the left entry. Ordered the stoppings and doors repaired.

Mar. 9th. Found in poor condition. Ordered a curtain on 1st left entry removed and replaced with a door.

Apr. 27th. Found in fair condition.

Aug. 26th. Ordered the ventilation conducted into cut-off on right entry.

Oak Hill F. B.

Located near Oak Hill. Operated by the Oak Hill Fire Brick Co., Oak Hill, O. T. J. Davis, Supt.; Jas. A. Whitt, mine foreman, both of Oak Hill. Drift opening, No. 4 seam 4 ft. thick; furnace ventilation; employs 5 miners and 2 day hands.

April 14th. Found in satisfactory condition.

Northern.

Located near Glenroy on the C. H. & D. Ry. Operated by the Northern Coal Mining Co., Jackson, O. Edwin Jones, same address, Supt.; Jno. Rockwell, Glenroy, O., mine foreman. Shaft opening 40 ft. deep, No. 2 seam 3 ft. thick; fan ventilation; employs 11 miners and 6 day hands.

Feb. 4th. Ordered loose roof taken down or timbered.

Sept. 4th. Ordered the safety catch on the cage repaired and hose provided for fire protection.

Twin-Ada.

Located near Glenroy on the D. T. & I. Ry. Operated by the Twin-Ada Coal Co., Coalton, O. W. J. Harper, Wellston, O., in charge of the mine. Shaft opening 90 ft. deep, No. 2 seam 3 ft. thick; fan ventilation; employs 25 miners and 11 day hands.

Mar. 2d. Found the ventilation deficient at the workings; ordered the volume of air increased and ice removed from the second opening.

July 30th. Found in fair condition.

Nov. 18th. Ordered loose roof taken down or timbered on east and west haulageways.

Booth.

Located one mile west of Jackson. Operated by Chas. H. Booth, Jackson, O., who has charge of the mine. Drift opening, No. 1 seam 44 in. thick; furnace ventilation; employs 5 miners and 2 day hands.

Dec. 10th. Ordered a steam boiler which was located 25 ft. from the main opening, removed to the lawful distance from the opening, order to be complied with in 30 days from date of inspection. Mine has wagon transportation.

Pyro.

Located near McKitterick Sta. on the C. H. & D. Ry. Operated by the Pyro Clay Products Co., Oak Hill, O. Evan Griffiths, Supt.; Albert Shepard, mine foreman, both of Oak Hill. Drift opening into the No. 5 seam of coal and clay; furnace ventilation; employs 3 miners and 1 day hand.

June 25th. Ordered loose roof on the traveling way to second opening timbered or taken down.

Shook No. 3.

Located one mile west of Coalton. Operated by the Garfield Mining Co., Coalton, O. Elmer Sell, Supt.; Geo. Shook, mine foreman, both of Coalton.

Drift opening, No. 2 seam 2 to 3 ft. thick; furnace ventilation; employs 8 miners and 2 day hands.

March 13th. Ventilation was satisfactory. Ordered a sufficient supply of props and caps kept at all working places. Mine has wagon transportation.

Washington.

Situated near Monroe Sta., on the B. & O. S.-W. Ry. Operated by the Washington Coal Co., Fire Brick, O. W. B. Hitchcock, Portsmouth, O., Supt.; M. C. Dickens, Fire Brick, O., mine foreman. Drift opening, No. 4 seam 3 ft. thick; furnace ventilation; employs 3 miners and 1 day hand.

Apr. 6th. Mine found idle. Ordered belt and governor wheel on engine which operates the limestone crusher, guarded.

May 26th. Found in fair condition. The limestone overlying the coal is mined to some extent.

Dee.

Located near Oak Hill on the B. & O. S.-W. Ry. Operated by the Dee Clay Products Co., Chicago, Ill. C. D. Shepard, Oak Hill, O., in charge of the mine. Drift opening, No. 5 seam 2½ ft. thick; ventilated by a small fire; employs 6 miners and 2 day hands.

Dec. 18th. Ordered the haulageway timbered.

Ohio F. B.

Situated near Oak Hill. Operated by the Ohio Fire Brick Co., Oak Hill, O. Edward Davis, Supt.; Henry Welsh, mine foreman, both of Oak Hill. Drift opening, No. 5 seam 4 ft. thick; furnace ventilation; employs 5 miners and 2 day hands.

Dec. 9th. Found in fair condition.

Elk Horn.

Located on the C. H. & D. Ry., near Rempel Sta. Operated by Homer Hunt, Jackson, O., who was in charge. Drift opening, No. 4 seam 4 ft. thick; furnace ventilation.

July 13th. Preparation was being made to resume operation after a suspension of nine years.

Oliver.

Located on Springfield switch, D. T. & I. Ry. Operated by the Oliver Coal Co., Chapman, O. Jas. Oliver, same address, in charge of the mine. Drift opening, No. 2 seam 3 ft. thick; natural ventilation; employs 5 miners and 1 day hand.

Dec. 15th, found in fair condition.

Goodrich.

Located two miles west of Coalton on the C., H. & D. Ry. Operated by the Goodrich Bros., Coalton, O. D. S. Goodrich, same address, in charge of the mine. Drift opening, No. 2 seam, 32 in. thick; employs 3 men.

Nov. 30th. To investigate the death of Frank Goodrich who was killed on Nov. 28th by a fall of roof.

Collard.

Located near Chapman on the D., T. & I. Ry. Operated by Frank Collard, Coalton, O., who is in charge of the mine. Drift opening, No. 2 seam, 3 ft. thick; natural ventilation; employs 3 miners.

Nov. 23d. Found in reasonably safe condition; it is practically exhausted; pillars are being removed along the crop line.

Jones and Morgan No. 3.

Located near Glenroy on the C. H. & D. Ry. Operated by the Jones & Morgan Coal Co., Jackson, O. Moses Morgan, Supt., D. R. Jones, mine foreman, both of Jackson, O. Slope opening 150 ft. long, No. 2 seam, 3 ft. thick; fan ventilation; employs 10 miners and 4 day hands.

Feb. 26th. Found in satisfactory condition. Mine has since been abandoned.

Minglewood.

Located near Lincoln Fur., on the D. T. & I. Ry. Operated by the Minglewood Coal Co., Wellston, O. Wm. Baumgartner, Supt., Wm. Pollock, mine foreman, both of Wellston, O. Drift openings into the No. 3 and 5 seams of coal; furnace ventilation; employs 19 miners and 5 day hands.

June 16th. Ordered a second opening made at the No. 3 mine.

June 24th. Visit was made to investigate a serious accident to Albert Staten, who was caught under a fall of roof.

Dec. 26th. Ordered loose roof taken down or timbered on main entry, No. 3 opening, also ordered blankets, bandages and linen provided, and kept at the mine.

SMALL DOMESTIC MINES VISITED IN JACKSON CO.**Payne.**

Operated by Jas. Payne, Jackson, O., 2 men employed.

Midway.

Operated by H. A. Pittenger, Wellston, O., 6 men employed.

Gilliland.

Operated by Trago & Gilliland, Jackson, O., 3 men employed.

Morgan.

Operated by Jas. Morgan, Oak Hill, O., 3 men employed.

Miller.

Operated by Miller & Poole, Oak Hill, O., 6 men employed.

Diamond No. 2.

Operated by the Diamond Brick Co., Oak Hill, O., employed 2 men; mine has since been abandoned.

Shively.

Operated by E. J. Shively, Jackson, O., 2 men employed.

Claar.

Operated by J. S. Claar, Jackson, O., 2 men employed.

McKinnis.

Operated by Wm. McKinnis, Jackson, O., 3 men employed.

Hamilton.

Operated by Grant Adams, Glenroy, O., 2 men employed.

Goodrich No. 2.

Operated by Goodrich Bros., Coalton, O., 3 men employed.

Boswell & Vittitoe.

Operated by John Boswell and John Vittitoe, R. D. 4., Jackson, O., employs 3 men. Visit was made to the mine on July 24th, to investigate an accident to James Monroe, who was caught under a fall of roof, causing injuries which resulted fatally on the 9th of October.

Maddox.

Operated by Maddox & Meyers, Coalton, O., 2 men employed.

W. E. Davis.

Operated by the W. E. Davis Coal Co., Coalton, O., 3 men employed.

Jefferson Iron Ore.

Located two miles west of Oak Hill. Operated by the Jefferson Iron Co., Oak Hill, O. Jos. J. Jones, Supt., Louis Metzler, mine foreman, both of Oak Hill. Drift opening into a seam of iron ore; natural ventilation; employs 9 miners.

March 28th. Removed the men from the south opening, which was over 100 feet from the surface, without a second opening.

LAWRENCE COUNTY.

New Castle.

Located near Royersville on the D. T. & I. Ry. Operated by the Hanging Rock Iron Co., Hanging Rock, O. Wm. Jeffries, Supt.; Wm. Dickens, mine foreman, both of Hanging Rock, O. Mine has 5 openings, each opening ventilated by a separate furnace; No. 5 seam of coal $3\frac{1}{2}$ ft. thick; employs 127 runners and 23 day hands.

Jan. 20th. Ordered the law governing the use and handling of powder complied with.

Apr. 9th and 10th. Removed the men from two working places in No. 5 opening which were over the lawful limit in advance of a breakthrough; ordered the escapement way in No. 4 opening put in lawful condition. fatally on the 9th of October.

May 28th and 29th. Found the ventilation deficient on right entry in No. 1 opening and in working places, near the face of No. 2 opening. Ordered the volume of air increased and conducted through the working places.

June 15th. Inspection of No. 3 opening made. Found in satisfactory condition.

Dec. 4th and 7th. Found the ventilation deficient on 2 left, No. 1 opening, due to the small area of the intake airway. Ordered the intake enlarged, also ordered a stack constructed on air shaft, No. 2 opening.

Cobb No. 2.

Located near Etna Sta. on the D. T. & I. Ry. Operated by the Halley Coal Co., Pedro, O. Frank W. Allard, Jackson, O., Supt.; George Woods, Pedro, O., mine foreman. Drift opening, No. 5 seam, $3\frac{1}{2}$ thick; furnace ventilation; employs 32 miners and 10 day hands.

April 22nd. Mine found idle; no inspection made.

May 7th. Ordered loose roof taken down or timbered in No. 1 and 2 openings. Removed the men from right entry in No. 2 opening on account of the ventilation being deficient.

June 24th. Found in poor condition. The haulage way was almost impassable with mud and water.

Aug. 19th. Stopped hauling on account of loose roof on main haulageway.

Oct. 22nd. Found the ventilation deficient on the right entry, No. 1. Ordered the men removed from the entry, which was complied with.

Cobb No. 4.

Located near Etna. Operated by the same company. J. W. Kelley, Pedro, O., in charge of the mine. Drift opening, No. 5 seam, $3\frac{1}{2}$ ft. thick; natural ventilation; employs 9 miners.

April 25th. Found that props and caps were not kept where the miners received their empty car. Ordered them placed at the mouth of the mine; also ordered all iron tampers and needles removed from the mine.

Cobb No. 5.

Located new Etna Station, D. T. & I. Ry. Operated by the same company. George Woods, mine foreman, succeeded by Jno. Woods, both of Pedro, O. Drift opening, No. 5 seam, 3 ft. thick; furnace ventilation; employs 22 miners and 5 day hands.

Bear Run.

Located near Eifort on the B. & O. S.-W. Ry. Operated by the Bear Run Mining Co., Eifort, O. O. T. Hugues, same address, in charge of the mine. Drift opening into the No. 4 seam of coal, $3\frac{1}{2}$ feet thick and limestone overlying the coal, of which 6 ft is mined; furnace ventilation; employs 24 miners and 13 day hands.

April 7th. Found the ventilation deficient in working places on the south, due to doors and stoppings leaking, which were repaired before the inspection was completed. Ordered railing on approach to tippie and governor wheel guarded on air compressor.

May 13th. Found ventilation and general condition satisfactory.

Oct. 9th. Found in fair condition.

The following mines are operated by the Cambria Clay Products Co., Black Fork, O. Simon Reitz, same address, Supt., all situated near Black Fork on the B. & O. S.-W. Ry.

Irish Hollow No. 2.

John S. Henry, Black Fork, O., mine foreman. Drift opening, No. 5 seam of coal, 3 ft. thick; furnace ventilation; employs 15 miners and 7 day hands.

March 16th. Found 3 and 4 east entries on 6th south on a squeeze, both entries were unsafe for traveling; ordered the men removed.

April 28th. Ordered loose roof taken down on 1st east entry.

May 25th. Ordered the volume of air increased at the workings.

Dec. 11th. Found the ventilation and general condition of the mine satisfactory.

Pipe Plant.

Chas. Smith, Black Fork, O., mine foreman. Drift opening, No. 5 seam of coal 3 ft. thick; furnace ventilation; employs 5 miners and 1 day hand.

Dec. 11th. Ordered loose roof taken down on traveling way to the furnace; 5 ft. of clay, which underly the coal is mined.

Clarion No. 4.

Robt. Martin, Black Fork, O., mine foreman. Drift opening, No. 4 seam of coal, 4 ft. thick; fan ventilation; employs 4 miners and 2 day hands.

July 7th. Ordered a check-door hung on 6th west entry.

Cambria Clay.

Robt. Martin, Black Fork, O., mine foreman. Drift opening, into a seam of clay, 6 to 7 ft. thick; furnace ventilation; employs 7 miners and 1 day hand.

July 7th. Ordered a second opening made on the west side of the mine.

Ginn.

Located near Lagrange, on the D. T. & I. Ry. Operated by the Ginn Co., Ironton, O. J. H. John, same address, Supt., Leonard Schwab, Hanging Rock, O., mine foreman. Drift opening, No. 5 seam, 3 ft. thick; fan ventilation; employs 44 miners and 6 day hands.

Jan. 21st. Ordered the management to remove the men from the mine at any time the fan ceases to operate, otherwise the conditions were satisfactory. Mine has been idle the greater part of the year.

Halley Farm.

Located near Lisman Jct., D. T. & I. Ry. Operated by W. R. Maxey, Culbertson, O., who is in charge of the mine. Drift opening, No. 5 seam, 3 ft. thick; furnace ventilation; employs 9 miners and 6 day hands.

May 8th. Ordered the mine ventilated by artificial means.

Sept. 28th. Found the ventilation deficient in several of the working places.

Harmon.

Situated near Forestdale, wagon transportation. Operated by Avril Harmon, Coalgrove, O., who was in charge of the mine. Drift opening, No. 5 seam, 3 ft. thick; natural ventilation; employs 7 miners and 1 day hand.

April 17th. Ordered the management to have all the miners provided with boxes for blasting powder and remove all iron tampers and needles from the mine.

June 19th. Ordered a furnace constructed and intersection made between all openings. The mine has three separate openings.

Scherer No. 2.

Located near Coalgrove, wagon transportation. Operated by Scherer & Hughes, Ironton, O. Chas. Hughes, same address, in charge of the mine. Drift opening, No. 5 seam, 3 ft. thick; furnace ventilation; employs 7 miners and 1 day hand.

May 6th. Ordered railing on the tippie, otherwise the mine was in satisfactory condition.

Geil.

Located near Coalgrove, wagon transportation. Operated by Anthony Geil, Ironton, O. John Holzapfel, same address, in charge. Drift opening, No. 5 seam, 3 ft. thick; furnace ventilation; employs 5 miners.

May 27th. Ordered a sufficient supply of props, caps and other timber kept at the mine and delivered to the working places.

Peters.

Located near Coalgrove. Operated by the Peters Fire Brick Co., Coalgrove, O. John Peters, Supt., Wm. Carter, mine foreman, both of Coalgrove, O. Drift opening, No. 5 seam, 3 ft. thick; natural ventilation; employs 4 miners and 1 day hand.

May 27th. Found in fair condition.

Portsmouth Ref. No. 1.

Located near Fire Brick on the B. & O. S.-W. Ry. Operated by the Portsmouth Refractories Co., Fire Brick, O. W. L. Hitchcock, Portsmouth, O., Supt., John M. Hanes, South Webster, O., mine foreman. Drift opening, No 5 seam, 3 ft. thick; furnace ventilation; employs 5 miners and 5 day hands.

April 30th. Found the second traveling way out of commission the result of a squeeze, which extended from an abandoned mine. Ordered the men removed from 1 and 2 east entries, which was complied with.

Oct. 14th. Found new opening made. Ordered it ventilated by artificial means. Five ft. of clay underlying the coal is mined; product of the mine is used at the Brick Plant.

Portsmouth Ref. No. 4.

Operated by the same company and under the same management. Drift opening, No. 4 seam, 4 ft. thick; ventilated by a small furnace; employs 3 miners and 1 day hand.

Oct. 14th. Found in fair condition.

Olive No. 4.

Located near Olive Furnace; transportation, C. H. & D. Ry. Operated by R. H. McGugin, Olive Fur., O. R. K. McGugin in charge. Drift opening, No. 4 seam, 4 ft. thick; furnace ventilation; employs 9 miners and 1 day hand.

June 3d. Found the ventilator deficient at the workings, due to using brattice cloth to conduct the air current to the face of the entry; ordered doors hung on necks of rooms.

York.

Located near Fire Brick on the B. & O. S. W. Ry. Operated by the Harbison-Walker Ref. Co., Pittsburgh, Pa. H. B. Campbell, Portsmouth, O., Supt.; Jno. M. Jenkins, Eifort, O., mine foreman. Drift opening into a seam of clay underlying the No. 5 seam of coal, 5 ft. thick; natural ventilation; employs 6 miners.

Dec. 18th. Found both openings advanced over the 100 ft. limit from the surface, with no means of conducting the ventilation to the face. Ordered intersection made with airshaft or second opening before men are allowed to work at the face of the openings.

LIMESTONE MINES.**Ironton P. C.**

Located near Ironton, transportation, N. & W. Ry. Operated by the Ironton Portland Cement So., Ironton, O. W. L. Patterson, same address, Supt. and mine foreman. Shaft opening, 560 ft. deep into the Maxwell seam of limestone which is 97 ft. thick; 20 ft. is mined; fan ventilation; employs 20 drillers, 16 loaders and 29 day hands.

March 30th. Found in satisfactory condition.

May 20th. Visit made in company with Asst. Chief Deputy Davies and Deputy Inspector Grogan. Ordered the wooden siding removed from the excavation near the bottom of the shaft and replaced with siding constructed of non-combustible material; also ordered all wooden buildings on the surface, near the main opening, removed.

Oct. 6th. Found improvements ordered on former visit completed. Ordered railing placed on stairway in main opening and cage installed in second opening equipped with safety catches and other appliances required by the mining laws.

Superior P. C.

Located near Superior on the D. T. & I Ry. Operated by Guy W. Mallon, Cincinnati, O., Rec. for the Superior Portland Cement Co. E. C. Switzer, Superior, O., Supt.; L. M. Cocke, same address, mine foreman. Drift opening, limestone, 6 ft. thick; electric haulage; fan ventilation; employs 49 miners and 38 day hands.

April 16th. Found the roof on 1 and 2 left entries, on which pillars were being drawn, unsafe. Ordered the mine foreman to remove the men working on the entries, which was complied with.

July 16th. Ordered trolley wire guarded over all traveling ways; also ordered an opening made to surface and install the fan at that point.

Nov. 11th. Found orders of former visit complied with.

Riley Lime.

Located near Centre Sta., D. T. & I. Ry. Operated by Michael Riley, Ort, O. John Imes, Steece, O., in charge of the mine. Drift opening, limestone, 6 ft. thick; natural ventilation; employs 17 miners and 7 day hands.

Dec. 28th. Ordered guards placed on fly wheel and belt on engine, which operate the limestone crusher; also ordered blankets, stretcher and other first aid supplies, provided and kept in a dry place in the mine. Mine has been idle the greater part of the year.

Pine Grove Lime No. 2.

Located near Pine Grove furnace; transportation, N. C. & O. R. Ry. Operated by the Hanging Rock Iron Co., Hanging Rock, O. Wm. Jeffries, Supt.; Wm. Dickens, mine foreman; both of Hanging Rock, O. Drift opening, limestone, 7 ft. thick; furnace ventilation; employs 9 miners and 5 day hands.

April 11th. Removed three men from the face of right entry, which was advanced over the lawful limit ahead of the break-through.

May 29th. Found haulageway in poor condition with mud and water, ordered break-through made at face of right entry.

Ironton P. C. Shale.

Located near Ironton. Operated by the Ironton Portland Cement Co., Ironton, O. W. L. Patterson, same address in charge. Drift opening into a seam of shale, 8 ft. thick; fan ventilation; employs 4 miners.

March 30th. Mine found idle; no inspection made.

SMALL DOMESTIC MINES VISITED IN LAWRENCE CO.

Carey.

Operated by Philip Carey, Coalgrove, O., 2 men employed.

Shafer.

Operated by C. W. Shafer, Coalgrove, O., 2 men employed.

Addis.

Operated by Addis & Gannon, Ironton, O., 2 men employed.

Sites.

Operated by Wm. Sites, R. D. No. 1, Ironton, O., 2 men employed.

Rutledge.

Operated by Wm. Rutledge, Irion, O., 3 men employed.

Lane.

Operated by Chas. Lane, R. D. No. 2, Ironton, O., 3 men employed.

SCIOTO COUNTY.

Cook.

Located near Gephart Sta., on the B. & O. S.-W. Ry. Operated by the Harbison Walker Refractories Co., Pittsburgh, Pa. H. B. Campbell, Portsmouth, O., Supt., John W. Jenkins, Wheelersburgh, O., mine foreman. Slope opening, 90 ft. long, into a seam of fireclay, 7 ft. thick; fan ventilation; employs 12 miners and 3 day hands.

March 26th. Found a force of men working on the haulageway, preparing to resume operation.

June 2d. Ordered blankets, stretcher and other first-aid supplies provided and kept at the mine.

Sugar Camp No. 2.

Located near Scioto Furnace, on the B. & O.-S. W. Ry. Operated by the same company. H. B. Campbell, Portsmouth, O., Supt., Jno. Harper, South Webster, O., mine foreman, succeeded by Clare Brown, same address. Drift opening in a seam of fireclay 3 ft. thick; furnace ventilation; employs 25 miners and 6 day hands.

March 23d. Removed the men from one working place, which was over the lawful limit in advance of a break-through.

July 9th. On account of the furnace being out of commission by a fall of dirt, from the surface, the men were removed from the mine, with orders to keep them out until the furnace was put in proper condition.

Clay Mill.

Located near Scioto Furnace, B. & O. S.-W. Ry. Operated by the same company and under the same management. Drift opening, clay, 3 ft. thick; furnace ventilation; employs 6 miners and 1 day hand.

July 9th. Ordered a second opening made on east side of mine.

Buckeye F. B. & C.

Located near Scioto Fcr., B. & O. S.-W. Ry. Operated by the Buckeye Fire Brick & Clay Co., Chicago, Ill. A. C. Pyles, Scioto Furnace, O., Supt. and mine foreman. Drift opening, clay, 3 ft. thick; furnace ventilation; employs 7 miners and 3 day hands.

March 23d. Found in satisfactory condition.

May 5th. The ventilation was deficient, due to ventilating the mine by a fire basket, while constructing a furnace near the workings.

July 10th. Mine found idle, no inspection made.

Eifort Lime.

Located near Eifort. B. & O. S. W. Ry. Operated by Morgan & Horton, Eifort, O. W. H. Horton, Supt.; Edward Queen, mine foreman; both of Eifort, O. Drift opening, No. 4 seam of coal and limestone overlying the coal. Coal 3 ft. thick, limestone, 6 ft.; furnace ventilation; employs 15 miners and 8 day hands.

Feb. 17th. Ordered a furnace constructed near workings, or replace the wooden stoppings with others constructed of non-perishable material.

July 6th. Found preparation made to comply with order.

Carlyle Shale.

Located near Sciotoville; transportation, N. & W. Ry. Operated by the Carlyle Paving Brick Co., Portsmouth, O. G. E. Carlyle, same address, Supt.; Thomas Sergeant, Sciotoville, O., mine foreman. Drift opening into a seam of shale, of which 12 ft. is mined; natural ventilation; employs 12 miners and 3 day hands.

Feb. 4th. Found in satisfactory condition.

May 1st. Ordered railing placed on tipples at main and second openings.

July 20th. Found in satisfactory condition.

Scioto Fire Brick

Located near Gephart Sta., B. & O. S. W. Ry. Operated by the Scioto Fire Brick Co., Sciotoville, O. Herman Held, Wheelerburgh, O., in charge of the mine. Drift opening into a seam of fire clay, 6 ft. thick; furnace ventilation; employs 6 miners and 3 day hands.

June 2nd. Ordered the props cut to the proper lengths and delivered to the point where the miner receives his empty car.

Scioto F. B. Shale.

Located near Sciotoville. Operated by the same company. C. W. Turner, Sciotoville, O., in charge of the mine. Drift opening into a seam of shale, of which 8 ft. is mined; natural ventilation; employs 5 miners.

May 1st. Ordered a sufficient supply of timber kept at the mine.

VINTON COUNTY.

Elk Fork No. 1.

Located near Elk Fork, H. V. Ry. Operated by the Elk Fork Coal Co., Wellston, O. George B. Davis, Supt.; Albert Nichols, mine foreman, succeeded by Jno. Kruscamp; all of Wellston, O. Shaft opening, 95 ft. deep, No. 2 seam, 3 ft. thick; electric and mule haulage; fan ventilation; employs 4 machine runners, 24 loaders and 19 day hands.

Oct. 7th. Found the ventilation deficient on 3 and 4 west S. entries. The result of leakage in the stoppings and choked up condition of the main airway by falls of roof. Ordered all falls of roof removed from the airway and refuge holes constructed on the electric haulageway.

Dec. 30th. Found no improvement in the ventilation on 3rd and 4th west S. entries; removed the men and ordered the mine foreman to keep them out until a sufficient volume of air was conducted through all working places on the entries.

Puritan No. 6.

Located near Hamden; transportation, H. V. Ry. Operated by the Puritan Brick Co., Hamden, O. F. C. Morgan, same address, Supt.; A. K. Williams, Wellston, O., mine foreman. Drift openings, No. 6 seam, 4½ ft. thick; fan ventilation; employs 2 machine runners, 18 loaders and 9 day hands.

Dec. 31st. Ordered blankets, stretcher, bandages and linen provided and kept at the mine.

Puritan Shale No. 2.

Operated by the same company and under the same management. Drift opening into a seam of shale, from 5 to 11 ft. thick; fan ventilation; employs 2 drillers, 12 loaders and 7 day hands.

Oct. 28th. In company with J. C. Davies, Asst. Chief Deputy Inspector, found in satisfactory condition.

McDonald.

Located near Clarion on the H. V. Ry. Operated by the Twentieth Century Coal Co. J. E. Mahaffey, Hawk, O., in charge of mine. Slope opening 143 ft. long, No. 4 seam, 4½ ft. thick; fan ventilation.

Sept. 29th. Found idle; no inspection made. The tippie was destroyed by fire later and mine was suspended to the end of the year.

Lawlor No. 6.

Located near Minerton, H. V. Ry. Operated by John L. Lawlor & Son, Columbus, O. Geo. Steele, Minerton, O., in charge of the mine. Slope opening, No. 4 seam, 4 ft. thick; fan ventilation; employs 30 miners and 9 day hands.

Nov. 10th. Owing to the belt connecting the engines operating the fan being in poor condition, the volume of air entering the mine was not sufficient for the number of men and animals working inside. Ordered the ventilation increased.

Lawlor No. 7.

Located near Clarion, H. V. Ry. Operated by the same company and under the same management. Slope opening, 90 ft. long, No. 4 seam, 4½ ft. thick; fan ventilation; employs 4 machine runners, 15 loaders and 6 day hands.

Dec. 19th. Found in satisfactory condition.

ATHENS COUNTY.

Hocking.

Located near Carbondale on the Mineral branch of the B. & O. S.-W. Ry. Operated by the Hocking Mining Co., Athens, O. G. W. Arnold, Supt.; Jas. Gascoyne, mine foreman, both of Carbondale, O. Slope opening, No. 6 seam, 4½ ft. thick; rope, electric and mule haulage; machine mining and fan ventilation; employs 14 machine runners, 94 loaders and 41 day hands.

March 24th and 26th. Ordered loose roof taken down or timbered on 1st east, S. entry.

July 14th. Visited in company with J. C. Davies, Asst. Chief Deputy, for the purpose of investigating conditions in regard to an additional opening near the workings on the south side of the mine. Ordered the opening made at the face of 5 and 6 east entries.

Sept. 2d. Mine found idle; no inspection made.

Sept. 9th and 10th. With the exception of falls of roof in the main airway, the mine was in satisfactory condition. Owing to the many faults and deficient coal throughout the mine, the time for making the additional opening on the south side was extended.

Carbondale No. 1.

Located near Carbondale, on the B. & O. S.-W. Ry. Operated by the Carbondale Coal Co., Chillicothe, O. M. H. Doolittle, Carbondale, O., Supt.; T. L. Hull, same address, mine foreman. Drift opening, No. 6 seam, 6 ft. thick; electric and mule haulage, machine mining, fan ventilation; employs 8 machine runners, 83 loaders and 28 day hands.

March 10th. Found the ventilation satisfactory, with the exception of cutoff on 2 west N. entry and west entry on the south. Several working places were not supplied with caps. Ordered a sufficient supply of caps provided in all working places.

Carbondale No. 2.

Located near Carbondale. Operated by the same company. M. H. Doolittle, Supt.; Fort Doolittle, mine foreman, both of Carbondale, O. Drift opening, No. 6 seam, 6 ft. thick; electric and mule haulage, machine mining, fan ventilation; employs 10 machine runners, 95 loaders and 34 day hands.

Jan. 27th. Found order given on former visit to place electric wire in position to comply with the law, complied with. Several of the miners were not provided with boxes for blasting powder; ordered them all to procure boxes.

SECOND DISTRICT

MORRIS ALBAUGH, INSPECTOR..
MURRAY, OHIO.

COMPOSED OF THE COUNTIES OF HOCKING, MEIGS, AND THE FOLLOWING
ATHENS COUNTY MINES: N. Y. 31, 33, 35, 36 AND 37; JUNIPER
1 AND 2; MAPLE HILL AND 10 X.

(603)

HON. J. M. ROAN, *Chief Deputy and Safety Commissioner of Mines, Columbus, Ohio.*

DEAR SIR:—In accordance with the usual custom of the Mining Department of Ohio, I herewith submit to you my annual report for the Second Inspection District, for the year ending December 31, 1914.

This district is composed of the counties of Hocking, Meigs and portions of Athens and Gallia. Two hundred and forty-seven visits were made to mines in this district during the year, as follows: Hocking, 136; Meigs, 65; Athens, 26; Gallia, 20. 20 days were spent in the oil fields of the district, and 12 days were spent in the mines in other districts than my own, at the request of the Chief Inspector of Mines, as follows: Perry Co., 6; Jackson Co., 4; and Athens Co. Dist. 3, 2 visits, making a total of 279 visits during the year.

Eighteen days were spent in Columbus in training with the mine rescue apparatus. Twenty-seven permanent improvements were made in the mines of the district during the years, as follows: Fans, 6; furnaces, 5; second openings, 4; and additional openings, 12. Four sets of scales were tested during the year, 3 of which were found weighing correctly and 1 incorrectly.

Six new mines were put in operation. Five were abandoned and one remained suspended throughout the year. The balance is largely in favor of the new mines for they will be much larger and better equipped mines than the mines which were abandoned.

I regret to report six fatal accidents which occurred in this district during the year, five of which occurred in Meigs Co. and one in Hocking Co.

March 21, 1914, Edward VanMeter was killed by a fall of slate at the face of No. 7 room on the 2nd South entry in Maynard No. 3 mine.

April 28, 1914, Thomas Gilroy McCallister, a driver, was killed by a fall of soapstone along the crop entry in Black Diamond No. 2 mine. The same fall killed the horse he was driving and badly injured another man.

May 5, 1914, Ellsworth Hayman, a driver, was killed in the Rolling Mill mine by falling under a moving trip of cars.

June 18, 1914, Samuel Mills was killed by a fall of slate at the bottom of the slope in the Forest Run mine while digging some coal for the boilers.

Sept. 11, 1914, Clarence Swanger was injured by a fall of slate in the Essex mine and died from his injuries on Sept. 13, 1914.

Nov. 6, 1914, Raymond Russel, a trip rider, was injured in the Maynard No. 2 mine and died Nov. 8, 1914. He was riding the front end of the motor when it crashed through a trap door, knocking Russel under the motor and crushing him.

One death from natural causes occurred in the Charter Oak mine on Oct. 19, 1914. Arthur Roush, a loader, aged 42 years, dropped dead of heart trouble while loading a car.

While the accident list is still much too large, a growing sentiment can be noticed both among miners and operators to adopt new means and methods for the purpose of eliminating accidents in the mines.

Some of the larger mines are now employing men as safety foremen or safety inspectors, who patrol the working faces and haulageways; this is a very commendable system and it is a very noticeable fact that wherever it is employed in this district the accident list is at least fifty per cent smaller than in some of the other mines. This system should be employed in all the mines of the state and the mining law of the state should be amended so as to enforce something of this kind. No doubt it would add to the cost of production, but I am sure the decreased accident list would compensate for such an expenditure. Much of

the sentiment spoken of above can be justly attributed to the untiring efforts of the Mining Department during the last few years, to impress on miners and operators alike the need of their cooperation with one another to eliminate accidents in the mines.

While the mines in this district worked more than probably any other district in the state during the year a large decrease in the total tonnage will no doubt be shown when compared with last year. The long suspension which began April 1 and lasted until August and September with a majority of the mines resulted in much damage to the mines especially the older ones, many of which filled up with water and caused the loss of thousands of tons of coal as a result of falls and squeezes.

Although there are many unpleasant features connected with the duties of an inspector of mines, my relations with both miners and operators have been universally pleasant. With but few exceptions I have had very little trouble in enforcing the law and having safety orders complied with, and I desire at this time to publicly thank both sides for the many courtesies shown me and the help rendered in the performance of my duties. In conclusion I wish to thank yourself, Assistant Chief Davies, my colleagues and the office force for the valuable and timely advice given and the many courtesies shown me, all of which I assure you were greatly appreciated.

Respectfully submitted,

MORRIS ALBAUGH
*Inspector for Second District,
Murray City, Ohio.*

HOCKING COUNTY.

NOTE.—Mr. T. S. Knox, of Nelsonville, O., is General Superintendent of all the New Pittsburgh Coal Co.'s mines in this district.

New Pittsburgh No. 5.

Located in Murray City, O., on the H. V. Ry. Operated by the New Pittsburgh Coal Co., of Columbus, O. John Slater, Murray City, O., is Supt.; John Walters, Murray City, O., mine boss. Geo. Palmer, of Murray City, succeeded John Walters as mine boss the latter part of the year. Slope opening to the No. 6 seam of coal, 6 ft. thick; machine mining, rope and motor haulage; ventilated by one steam and two electric fans; mine employs 20 machine men, 190 loaders and 48 day hands. This mine is well managed and is generally in very good condition. The wiring and timbering being well done, the rope and motor roads kept clean and well lighted.

Jan. 2-5th. Ordered door built at the end of the 14 W. switch in the south end a check-door placed at the last room on the 14 W. back haul entry.

Aug. 6-7th. Ordered manhole cut at the latch stand at end of 10 E. south motor switch, and to allow no powder taken into the mine by any man who had no box for storing powder in.

Nov. 19-20th. Mine in good condition. Stopped No. 1 room on 10 E. south, ahead of air.

New Pittsburgh No. 7.

Located near Murray City, O., on the H. V. Ry. Operated by the New Pittsburgh Coal Co., of Columbus, O. Henry Frericks, Supt.; John Rittemyer, mine boss, both of Nelsonville, O. Mr. Frericks died the latter part of December and was succeeded by John Slater, of Murray City, O. Drift opening, penetrating the No. 6 seam of coal, from 5 to 8 ft. in thickness; ventilated by a 14 ft. Jeffrey's steam fan; machine and pick mining; employs 20 pick miners, 22 machine men, 190 loaders and 74 day hands. The mine was generally in very good condition.

Feb. 9th. Ordered brattice built across the main north entry, so as to throw the air across the face of the rooms on the 2 west entry, close up the break-throughs in the last room in 2 W. entry and build a check-door on 1 W. entry at the last working place.

March 19-20th. Ordered loose roof taken down along the 11 and 12 west and 13 E. haulageways. Repair doors and brattices along 1-2 E. north and ordered all men to procure powder boxes.

Oct. 14-15th. Ordered manholes made along the main South motor road from 8 W. to 12 W. entry and check door built at No. 10 room on 10 W. S.

New Pittsburgh No. 7½.

Located near Murray City, O., on the H. V. Ry. Operated by the New Pittsburgh Coal Co., Columbus, O. John Robson, Supt.; Samuel Ponn, mine boss, both of Murray City, O. Drift opening to No. 6 seam of coal, 5 to 7 ft. thick. Machine mining, horse haulage, natural ventilation; employs 6 cutters and loaders and 3 day hands. This is a new mine and has not been developed much.

Jan. 3d and *March* 31st. Found the mine in good condition. It closed down April 1 and remained suspended the balance of the year.

NOTE.—The New Pittsburgh Coal Co. employs a safety inspector, Mr. Peter Booth, who spends all his time patrolling the working places in their mines; he is a valuable man and other companies would do well to follow their example.

NOTE:—Mr. Harry Kelly of Nelsonville, O., is Dist. Superintendent for all of the Sunday Creek Coal Co.'s mines in this district.

Jobs No. 1.

Located near Jobs, O., on the H. V. R. R. Operated by the Sunday Creek Coal Co., Columbus, O., leased to Ed Bryan of Murray City, O., who has supervision. Drift opening to the No. 6 seam of coal, 6 ft. thick; machine mining; mule and rope haulage and fan ventilation; employs 2 machine men, 10 loaders and 2 day hands.

Feb. 5th. Conditions satisfactory.

Sept. 3rd. Tested the scales and found them weighing correctly. Ordered hauling stopped until loose roof was taken down along the main haulway.

Nov. 24th. Found the fan had been taken out of the mine and the men working in sight of daylight. They will soon be ready to abandon this mine.

Jobs No. 2.

Located at Jobs, O., on the H. V. R. R. Operated by the Sunday Creek Coal Co., Columbus, O. Frank Murphy, Nelsonville, O., Supt.; William Morgan, Murray City, O., mine boss. Drift opening to No. 6 seam of coal from 3 to 7 ft. thick. Ventilated by one air and 6 electric fans and one furnace; pick and machine mining; rope and motor haulage; employs 48 pick miners, 14 machine cutters, 120 loaders and 65 day hands.

March 24rd-25th. Ordered rope road cleaned up and loose roof taken down. The haulageway in the Doolittle territory gone over and made safe for travel, and the force of men on 1-2-3-4 East reduced to suit air conditions.

Sept. 14th-17th. Found my former orders regarding the Doolittle territory had not been complied with. Sent all the men home out of this territory and ordered no coal hauled from this territory until the haulageway was made safe for travel. Ordered the 3rd South fan moved to the 4th North and used as a booster fan. Ordered all the men to procure boxes for keeping powder.

Dec. 9th-10th. Ventilation poor in the Doolittle territory due to fan *being* broke down. Ordered door at 3 E. left open about 6 inches so as to furnish air for this territory. Ordered 2nd West rope road gone over and all loose roof taken down or timbered. Ordered the management to allow no man to take any powder into the mine unless he had a box for storing the same.

No. 207 Snake Hollow 1 and 2.

Located in Snake Hollow on a branch of the H. V. R. R. Operated by the Sunday Creek Coal Co. of Columbus, O. Thomas Burns, Nelsonville, O., Supt.; John Coe, Carbon Hill, O., mine boss. Drift opening penetrating the No. 6 seam of coal 6 ft. thick; machine and pick mining; engine and motor haulage; ventilated by 2 10-ft. electric fans; employs 5 pick mines, 18 machine cutters, 175 loaders and 80 day hands.

Jan. 22d-23d. Ordered haulageways on 10 E. and 8 E. switch retimbered and manholes along the motor road cleaned out.

Sept. 2d-4th. Ordered brattices along the inlet airway repaired. Choke cleaned out of the air course at 1 W. entry off the 10 S. entry and men to procure powder boxes.

Dec. 22nd-23rd. Found No. 2 abandoned and the fan moved to No. 1 and used as a booster. Ordered the accident supplies taken inside of the mine and places provided for keeping them.

Sunday Creek No. 3x.

Located at New Pittsburg, O., on the H. V. R. R. Operated by Love Bros., Nelsonville, O. Ed. Love, Nelsonville, O., Supt.; John Love, Nelsonville, O., mine boss. Drift opening penetrating the No. 6 seam of coal 5 to 8 ft. in thickness; machine mining; furnace ventilation; mule haulage; employs 2 machine men, 13 loaders and 1 day hand.

Feb. 13th. Ordered management to procure blankets, stretchers, etc., as required by law and the men to procure boxes for keeping powder.

Aug. 10th. Conditions satisfactory.

Sept. 11. Tested scales and found them weighing incorrectly.

Nov. 24th. Conditions were good.

Sunday Creek No. 513.

Located at Consol, O., on the Brush Fork branch of the H. V. R. R. Operated by The Globe Coal Co., Murray City, Ohio. E. W. Davis, Murray City, O., Supt.; Lew Green, Carbon Hill, O., mine boss. Drift opening to No. 6 seam of coal 6 ft. in thickness. Machine mining; furnace ventilation and horse haulage; employs 24 loaders, 2 machine cutters and 4 day hands.

Feb. 13th. Ventilation was very poor. Ordered No. 1 room on 1 E. entry driven to the outside and a fan or furnace installed. Ordered all the men to procure boxes for keeping powder.

Aug. 12th. Found former orders complied with and the mine in good condition.

Nov. 23. Mine was in good condition.

Escoe No. 1 and 2.

Located $2\frac{1}{2}$ miles northwest of Murray City, O., on the H. V. Ry. Operated by the Essex Coal Co., Columbus, O. Chas. Essex, New Straitsville, had full charge until late in the year, when he was succeeded by Robt Essex, of New Straitsville, O., and Samuel Auker, of New Straitsville, became mine boss. Drift opening into the No. 6 seam of coal, 6 to 8 ft. thick; pick and machine mining, motor haulage; fan ventilation in each opening. The mine was always in good condition; employs 4 pick miners, 8 machine runners, 107 loaders and 32 day hands.

Feb. 2d. Conditions were good.

April 12th. Was called to the mine by the Superintendent to assist in damming up water which had broken through from old No. 3 mine at New Straitsville, O.

July 27th. Ordered check-door built at No. 4 room on 7 W. and men to procure powder boxes.

Oct. 29th. Found No. 2 had been abandoned. No. 1 was in good condition.

North Hocking No. 1 and 2.

Located one mile north of Murray City, O., on the H. V. Ry. Operated by the North Hocking Coal Co., Murray City, O. Archie Riggs, Supt., and John Badmelle mine boss, both of Murray City, O. Mr. M. M. Kasler assumed full charge of the mine in July. Drift openings, penetrating the No. 6 seam of coal, from 5 to 8 ft. in thickness; pick and machine mining, horse and rope haulage, fan ventilation; employs 2 pick miners, 2 machine cutters, 14 loaders and 4 day hands. The mines were generally in fair condition. Visited these mines Jan. 3, March 31, Nov. 16, Dec. 11.

Sycamore.

Located at Murray City, O., on the H. V. Ry. Operated by the Sycamore Coal Co., Murray City, O. Peter Bitner, Murray City, O., has full charge. Drift opening to No. 6 seam of coal, 4 to 6 ft. in thickness; pick mining; furnace ventilation, horse haulage; employs 5 pick miners and 2 day hands. Visited Jan. 3, March 31 and Nov. 4., and found the mine in extra good condition on all of my visits.

Gem.

Located at Lost Run, on the H. V. Ry. Operated by the Gem Coal Co., Nelsonville, O. A. D. Knight, Nelsonville, O., Supt. and mine boss. Drift opening, penetrating the No. 6 seam of coal, from 5 to 10 ft. in thickness; machine mining, motor haulage, electric fan ventilation; employs 6 machine runners, 70 loaders and 21 day hands.

Jan. 24th and Aug. 24th. Mine in good condition.

Nov. 19th. Ventilation very poor, due to the fan pulling its air back through the old works and across the switch instead of around through the workings. Ordered door moved from between the 1-2 E. entry to across the mouth of 1 E. entry. Close up break-through from No. 1 room on 1 E. to the main entry. Close up the additional opening to the outside at the head of the 3d E. entry.

Dewey.

Located in Lost Run, on the H. V. Ry. Operated by the Davis Coal Co., New Straitsville, O. Wm. Davis, Supt.; Wm. Abram, mine boss, both of New Straitsville, O. Drift opening, penetrating the No. 6 seam of coal, from 5 to 10 ft. in thickness; machine mining, horse haulage, natural ventilation; employs 2 machine runners, 9 loaders and 2 day hands.

March 4, July 3d. Mine was in good condition.

Nov. 7th. Ordered mud and water cleaned off the switch and haulageway and the drainage ditch opened up and kept clean.

Butterfly.

Located at Payne's Crossing, on the H. V. R. R. Operated by the Kramer Coal Co., New Straitsville, O. John P. Kramer, New Straitsville, O., has supervision. Drift opening to the No. 6 seam of coal, 8 ft. thick; pick mining, horse and incline for haulage, natural ventilation; employs 9 pick miners and 2 day hands.

Jan. 21st. Ordered new air course made in the North Hill.

July 1st. Mine was in fair condition.

Copperhead.

Located 1 mile from Payne's Crossing, on the H. V. R. R. Operated by the Copperhead Coal Co., Carbon Hill, O. Chas. James, New Straitsville, had supervision until June, when the mine was bought by John Boyle, of New Straitsville, O., and Arch Laverty, of New Straitsville, became Supt. Drift opening, into the No. 6 seam of coal 8 ft. thick; machine mining, motor haulage, electric fan ventilation; employs 2 machine runners, 8 loaders and 2 day hands.

March 4th. Ordered lights repaired on the motor and the motor wire tightened up and hung as required by law.

July 1st. Mine was in fair condition.

Starr No. 1.

Located at Starr, O., on the H. V. R. R. Operated by the Starr-Hocking Coal Co., Columbus, O. Chas. Haskins, Starr, O., Supt.; L. M. Haskins, Starr, O.,

mine boss. Frank Miller, Starr, O., succeeded L. M. Haskins as mine boss in September. Drift opening, penetrating the No. 6 seam of coal, 4 ft. thick; machine mining, motor haulage, fan ventilation; employs 6 machine cutters, 42 loaders and 21 day hands.

Jan. 26th. Mine was in very poor condition. Ordered a new escapement-way made, manholes made along the motor road, and check-door placed at No. 23 room on 2 E. entry.

April 28th. Conditions some better, manholes were made, and they were working on the new escapement-way. Ordered a split made in the air so as to better ventilate 13 cutoff and 2d E. headover.

June 18th. Found former orders complied with and mine in much improved condition.

Oct. 16th. Mine in satisfactory condition.

Starr No. 2.

Located at Starr, O., on the H. V. R. R. Operated by the Starr-Hocking Coal Co., Columbus, O. Charles Haskins, Supt.; John Dehmen, mine boss; both of Starr, O. Drift opening penetrating the No. 6 seam of coal 4 feet in thickness. Machine mining, motor haulage, fan ventilation; employs 10 machine cutters, 65 loaders, 28 day hands.

Jan. 26th. Found the escapement way blocked up and full of water. Ordered the same made safe for travel at once and loose roof taken down along the haulage-way.

April 28th. Mine was in fair condition.

June 18th. Ordered a traveling way made along the side of the motor road, where the cars are dropped into the South switch.

Oct. 13th. I found the ventilation in a deplorable condition, due to the fact that rooms from the 1 E. entry had been driven through to No. 1 mine and never bratticed up, thus letting each fan work against the other. I gave them a limit of two days' time to close up these rooms, clean out chokes in the air course and restore proper ventilation.

Oct. 16th. Found my former orders complied with and ventilation much improved.

Diamond Clay.

Located near Haydenville, O., on the H. V. R. R. Operated by the Ohio Fire Proofing Co., Nelsonville, O. John Reuter, Supt., Nelsonville, O.; Eph Campbell, Nelsonville, O., mine boss. Drift opening penetrating the No. 5 seam of clay 6 ft. thick; employs 7 loaders and 3 hands; furnace ventilation and horse haulage.

April 7th. Mine was in good condition except for ventilation, which was poor on account of the furnace drawing air in the main haulway instead of through the workings. Ordered door built on the main haulway just below the furnace.

July 2. Mine was in good condition.

Union Furnace Clay.

Located at Union Furnace, O., on the H. V. R. R. Operated by the Columbus Brick and Terra Cotta Co., Columbus, O. B. S. Fisher, Supt.; James Beckel, mine boss, both of Union Furnace, O. Drift opening penetrating the No. 3 seam of clay, 10 feet in thickness; furnace ventilation; mule haulage; employs 3 drillers and shooters, 10 loaders and 6 day hands.

April 11 and June 19. The mine was in good condition on each visit.

Kachelmacher Clay No. 4.

Located one mile north of Greendale, O., on the H. V. R. R. Operated by the Hocking Valley Products Co., Columbus, O. W. Drayton, Supt.; Ross Huddy, mine boss, both of Greendale, O. L. F. Hammond, Greendale, O., succeeded Ross Huddy as mine boss in June. Drift opening, penetrating the No. 4 seam of clay, 10 ft. thick; employs 6 loaders and 1 day hand.

Jan. 21st. Mine was in fair condition.

April 23d. Ordered fan or furnace installed.

June 29th. Found furnace installed and mine in good shape.

Nov. 6th. Mine was in good condition.

Kachelmacher Coal.

Located near the clay mines. Operated by the same company and under the same management. The product of both clay mines and coal being used at the brick plant at Greendale. Drift opening, to No. 6 seam of coal, 8 ft. thick.

Jan. 21st and June 29th. Found only two men employed drawing pillars near the mine mouth.

Nov. 6th. Found the mine abandoned.

Kachelmacher Clay No. 5.

Located one mile north of Greendale, O., on the H. V. R. R. Operated by the Hocking Valley Products Co., Columbus, O. Wm. Drayton, Supt.; Ross Huddy, mine boss, both of Greendale, O. L. F. Hammond succeeded Ross Huddy in June. Drift opening to No. 5 seam of clay, from 8 to 12 feet in thickness; motor and horse haulage; fair ventilation; employs 22 loaders and 12 day hands.

Jan. 21st. Mine was in good condition.

April 23rd. Ordered the old inlet air course closed up and all the air pulled in at the new escapement way.

June 29th.-Nov. 6th. Found the mine in good condition.

Black Diamond Clay.

Located two miles from Haydenville, O. Operated by the National Fire-proofing Co., Pittsburg, Pa. Thos. Brown, Supt.; Henry Snoke, mine boss, both of Haydenville, O. Drift opening to the No. 5 seam of clay, from 8 to 12 feet in thickness; double entry system; horse and engine haulage; furnace ventilation; employs 16 loaders and 8 day hands. The mine was in good condition all year and the management was always ready and willing to do anything to improve conditions.

Jan. 7, April 8, June 25, Oct. 27, Feb. 23. In company with Chief Inspector J. C. Davies in regard to installing a gasoline pump inside of the mine.

Oct. 27. I found a new additional opening had been made and a new furnace installed.

Black Diamond Coal No. 1.

Located near the clay mine and owned by the same company, who have sub-leased it to E. M. McCallister, of Haydenville, O., who has charge of the place; pick mining; drift opening to No. 6 seam of coal, from 3 to 5 feet in thickness; mule haulage and natural ventilation.

June 25 and Oct. 27. Ordered an air course driven to the outside from the first east entry and a furnace installed. The mine employs 6 pick miners and 1 day hand.

Black Diamond Coal No. 2.

Located over the clay mine and owned by the same company, who have leased it to L. A. Simes, of Haydenville, O., who has charge of the mine. Drift opening to No. 6 seam of coal, 3 to 4 feet in thickness; pick mining; mule haulage; natural ventilation; employs 8 pick miners and 1 day hand.

Jan. 7. Mine was in poor condition. Ordered loose roof taken down along the haulageway and better timbering done in the working places.

April 30. Investigated the fatal accident to Thomas Gilroy McCallister, a driver, who was killed by a fall of soapstone. The horse he was driving was also killed and another man badly injured.

June 25-Oct. 27. The mine was in a much improved condition.

Black Diamond Nos. 3, 4 and 5.

Located two miles from Haydenville, O. Operated by the National Fire-Proofing Co., Pittsburg, Pa. Thos. Brown, Supt.; Henry Snoke, mine boss, both of Haydenville, O. Drift openings penetrating the No. 6 seam of coal, from 3 to 5 feet in thickness; pick mining; mule haulage; furnace ventilation; employs 30 pick miners and 7 day hands. Nos. 3 and 4 were abandoned early in the spring.

Jan. 7. Conditions fair.

April 8. Ventilation poor due to the furnace drawing air in the escapement way and through the old works. Ordered a good tight door built at the escapement way and old works bratticed up and a better fire kept in the furnace.

June 25. Ordered the mine closed down for operating in violation of the Anti-Screen law. Ordered the men to comply with the solid shooting law whenever the mine resumed operations.

Oct. 27. Conditions were good.

Little Monkey.

Located near Carbon Hill, O., on the H. V. R. R. Operated by the Russel Run Coal Co., Carbon Hill, Ohio. W. B. Bailey, Carbon Hill, O., has supervision. He was succeeded by Isaac Blosser of Carbon Hill, O., in October. Drift opening, penetrating the No. 6 seam of coal, 6 feet in thickness; machine mining; horse haulage; had natural ventilation until late in the year when a fan was installed; employs 2 machine cutters, 18 loaders and 7 day hands.

Feb. 26. Mine was in good condition.

July 29. Ventilation was very poor; ordered a new air course driven to the outside and a fan installed; otherwise the mine was in good condition.

Oct. 28. Found my former orders had been complied with and the mine was in good condition.

Old Greendale No. 5.

Located at Murray City, O., on the H. V. R. R. Operated by the Murray Mining Co., Columbus, O. J. W. Miskell, Supt.; Samuel Taylor, mine boss, both of Murray City, O. Slope opening into the No. 6 seam of coal, 6 feet in thickness; machine mining; horse and rope haulage; fan ventilation; employs 2 machine men, 20 loaders and 7 day hands.

Feb. 5. Ventilation poor; ordered fan speeded up and stopped No. 2 room on 2E, ahead of air.

July 6 and 8. Spent these two days exploring the old works with the superintendent before the mine resumed operations.

July 30. Stopped 1E, entry off 2N, until air course was made; ordered doors and brattices repaired; other conditions good.

Sept. 3. Found my former orders had not been complied with and ventilation was in a deplorable condition. I sent all the men home from the main west territory and told them to stay out of this territory until better ventilation was furnished; gave the management two days' time to repair doors and brattices.

Nov. 23. Mine was in fair condition.

C. H. C. and I. Co., No. 15.

Located at Sand Run, O., on the H. V. R. R. Operated by the Central Hocking Coal Co., Columbus, O. T. J. McLuish, Supt.; Walter Crooks, mine boss, both of Carbon Hill, O. Drift opening penetrating the No. 6 seam of coal, from 5 to 7 feet in thickness; machine mining; horse and motor haulage; 3 fans for ventilation; employs 8 machine men, 86 loaders and 25 day hands.

Jan. 6. Ordered choke cleaned out of the air course at 1E; build two doors on the 1-2E switch and drive a break through from No. 1 room on 2E to the old works and use this for an outlet.

Aug. 28. Mine was in good condition.

Dec. Inspected this mine in company with Assistant Chief Deputy J. C. Davies. Ordered all men to procure powder boxes and containers for carbide.

Edgell.

Located at Sand Run, O., on the H. V. R. R. Owned by the Hocking Valley Products Co. Operated by The Sand Run Coal Co., Nelsonville, Ohio. Jas. Miller, Logan, O., was superintendent until June, when he was succeeded by Chas. Green, of Sand Run, O. Drift opening to the No. 6 seam of coal, 7 feet in thickness; machine mining; natural ventilation and horse haulage; employs 12 loaders, 2 machine men and two day hands.

Feb. 27 and Dec. 1. On both visits I found the mine in good condition.

Royal.

Located at Longstreth, O., on the H. V. R. R. Operated by the Royal Coal Co., Nelsonville, O. Arthur Knight, Nelsonville, O., Supt.; Geo. Rosser, Nelsonville, mine boss. Drift opening to the No. 6 seam of coal, 6 ft. thick; pick and machine mining; natural ventilation; employed 2 machine men, 8 loaders and 2 day hands.

Feb. 27. Found the men drawing pillars near the mine mouth.

Aug. 31. Found the mine abandoned and all track and machinery moved away.

Dorr Run Mine.

Located one mile west of Carbon Hill, O., on the H. V. R. R. Operated by the Coe Mining Co., Nelsonville, O. Henry L. Coe, Nelsonville, O., Supt., and Harry Joyce, Wm. Fielder, Joe Ball and L. M. Haskins all served time under Mr. Coe as mine boss while he had charge of the mine. The mine changed hands in October and was operated by the Dorr Run Coal Co., of Carbon Hill, O., the balance of the year. Mr. John Murday, Carbon Hill, O., had full charge under the new ownership. Drift opening to the No. 6 seam of coal, 4 feet thick; machine mining; mule and motor haulage; electric fan ventilation; employs 6 machine cutters, 60 loaders and 18 day hands.

March 3. Ordered door on main motor road repaired and an attendant kept there at all times. Ordered men to comply with the law regarding the use of carbide.

April 27. Ventilation poor; ordered doors and brattices repaired and motor wire along the 6 South entry changed so as to comply with the law.

June 23. Found ventilation very poor and my former orders not complied with. Ordered men to stop work if this work was not completed within two days' time; ordered the terminal ends of all power wires properly guarded.

Oct. 30. Visited at the request of the Claims Department of the Industrial Commission of Ohio.

Nov. 5. Found the mine in fair condition; ordered second opening on the west side bratticed up and loose roof on the motor switch timbered or taken down.

Stalters No. 1.

Located at Longstreth, O., on the H. V. R. R. Operated by the Carbon Hill Mining Co., Carbon Hill, O. Frank Hawk, Carbon Hill, O., has full charge. Drift opening to the No. 6 seam of coal, 6 ft. thick; machine mining; electric fan ventilation; horse, rope and drum haulage; employs 2 machine men, 20 loaders and 7 day hands.

Feb. 27. Found mine in good condition.

Aug. 31. Ordered fly wheels in the engine house guarded and test weights kept at the mine.

Nov. 30. Found ventilation poor; ordered fan moved to the opposite entry from where it was sitting and air currents reversed so as to use the mine mouth as the inlet; ordered loose roof taken down on the haulway.

Stalters No. 3.

Located at Longsteth, O., on the H. V. R. R. Operated by the L. H. Nixon Coal Co., Nelsonville, O. L. H. Nixon, Nelsonville, O., Supt. and mine boss. Drift opening to the No. 6 seam of coal, 6 ft. in thickness; pick mining; mule haulage; natural ventilation; employed 5 loaders and 1 day hand.

Feb. 27. Found the men drawing pillars near the mine mouth.

Oct. 7. Found the mine abandoned.

Nixon and Ervin.

Located at Longstreth, O., on the H. V. R. R. Operated by the Nixon and Ervin Coal Co., Nelsonville, O. L. H. Nixon, Supt., and Chas Ervin, mine boss, both of Nelsonville, O. This is a new mine just being opened up; it will never be a very large mine. It is a drift opening to the No. 6 seam of coal, 6 feet thick; pick mining and mule haulage; employs 4 pick miners and 1 day hand.

Aug. 31. Conditions were good.

Joyce.

Located one mile west of Carbon Hill, O., on the H. V. R. R. Operated by the Joyce Coal Co., Carbon Hill, O., Clifford Joyce, Carbon Hill, O., has full charge. This is a new mine just being opened up; it will be a good sized mine when fully developed. It is a drift opening to the No. 6 seam of coal, from 4 to 5 ft. in thickness; employs 5 pick miners, all driving entry, and one day hand.

Nov. 25. The mine was in good condition.

Helm Clay.

Located one mile north of Carbon Hill, O., on the H. V. R. R. Operated by the Helm Clay Products Co., Logan, Ohio. J. T. Gebhart, Supt.; Chas. Barthlow, mine boss, both of Logan, O. Drift opening to the No. 5 seam of clay, 8 to 12 ft. in thickness; employs 4 loaders and 1 day hand.

April 10. Found the mine in good condition.

Helm Coal.

Located on the clay plant and operated by the same company and under the same management as above. The coal is all used at the clay plant. Drift opening to No. 6 seam of coal, from 4 to 6 ft. in thickness; pick mining; mule haulage; natural ventilation; employs 4 pick miners and 1 day hand.

April 10. Found the mine in good condition.

Prosperity.

Located at Sand Run, O., on the H. V. R. R. Operated by the Carbon Coal Co., Columbus, O. Drift opening to the No. 6 seam of coal, from 3 to 6 ft. thick; machine mining; motor haulage; 2 fans for ventilation. The mine was not in operation during the year although a few men were kept there to keep the mine in repair.

NOTE:—Mr. P. C. Morris, of Nelsonville, O., is general superintendent of all the Manhattan Coal Co.'s mines in this district.

Manhattan No. 30.

Located near Orbiston, O., on the H. V. R. R. Operated by the Manhattan Coal Co., Columbus, O. P. W. Wyckham, Nelsonville, O., Supt.; Arthur Stiff, Murray City, O., mine boss. Drift opening penetrating the No. 6 seam of coal, from 4 to 6 ft. in thickness; pick and machine mining; horse and motor haulage; ventilated by one steam and two electric fans; employs 6 pick miners, 16 machine runners, 176 loaders and 78 day hands.

March 16-17. Ordered the man-way in the North opening cleaned up and put in shape for travel; put a larger portion of the air down the 1 and 2 West split; stop No. 13 room on 1W, ahead of air.

Oct. 5-6. Ordered the men to procure boxes for storing powder; ordered check door on 4W entry moved up to No. 23 room. The management at this mine deserves much credit for keeping this mine in shape when their natural conditions and surroundings are taken into consideration.

Manhattan No. 37.

Located at Cawthorne, O., on the H. V. R. R. Operated by the Manhattan Coal Co., Columbus, O. John Murphy, Supt. and mine boss, Nelsonville, O. Drift openings to the No. 6 seam of coal, 6 feet in thickness; machine mining; horse and motor haulage; 3 electric fans for ventilation; employs 6 machine runners, 53 loaders and 16 day hands.

Feb. 4. Mine was in good condition.

March 28-30. Ventilation was very poor in the West Hill. I had the superintendent to install a booster fan at the extreme end of the workings and on my return, March 30, conditions were much improved; ordered safety blocks placed at the end of the switch in the East Hill.

Sept. 11. Visit was made in company with Assistant Chief Deputy J. C. Davis; ordered loose roof taken down along the motor road; ordered men to procure boxes for keeping powder in and brattices in the East Hill, made of non-perishable material.

Dec. 21. Ordered the mine mouth in the West Hill timbered up safely.

SMALL MINES VISITED IN HOCKING COUNTY.

- May* 18. John Bowers, Nelsonville, O. Three pick miners.
May 18. Manuel Skivers, Nelsonville, O. Two pick miners.
May 19. Ed. Fisk, Nelsonville, O. Three pick miners.
May 19th. Frank Tedrow, Nelsonville, O. Four pick miners, 1 day hand.
May 19th. John Herrold, Nelsonville, O. Six pick miners, 1 day hand.
Nov. 25th. James Bayless, Nelsonville, O. Two pick miners, 1 day hand.
Nov. 25th. Lon Coakley, Nos. 1 and 2, Nelsonville, O. Five pick miners, 1 day hand.
Nov. 25th. A. B. Ailes, Nelsonville, O. Three pick miners, 1 day hand.
Nov. 25th. Fred Coakley, Nelsonville, O. Two pick miners.
Nov. 25. J. S. Jones, Nelsonville, O. Two pick miners, 1 day hand.
Nov. 25th. Ashley Cook, Nelsonville, O. Two pick miners.
Nov. 24th. Henry Bobbitt, Jobs, O. Two pick miners.
July 24th. Wm. Nixon, New Straitsville, O. Two pick miners.
Dec. 1st. O. B. Sweazy, Sand Run, O. One pick miner.

MEIGS COUNTY.

Maynard No. 1.

Located near Rutland, O., on the K. & M. R. R. Operated by the Maynard Coal Co., Columbus, O. L. H. Heiner, Supt.; G. M. Renshaw, mine boss, both of Rutland, O. Drift opening, penetrating the No. 8 seam of coal, $4\frac{1}{2}$ ft. thick; pick and machine mining, mule and motor haulage, electric fan ventilation; employs 7 pick miners, 10 machine runners, 61 loaders and 30 day hands.

March 9th. Mine was idle; no inspection made.

Sept. 21st. Mine was in rather poor condition. Ordered brattices built and air currents directed across the working faces in the north territory. Ordered the motor road gone over completely and all loose roof taken down and timbers set so as to make this road fit for traveling. Ordered men to procure boxes for keeping powder.

Dec. 28th. Mine was in much improved condition. Ordered accident supplies taken inside of the mine as required by Sec. 934 of the mining law. Ordered loose roof along the south motor road taken down.

Maynard No. 2.

Located three miles north of Middleport, O., on the K. & M. R. R. Operated by the Maynard Coal Co., Columbus, O. Edw. Kennedy, Supt., Rutland, O.; Geo. Miller, mine boss, Pomeroy, R. D. No. 3. Drift opening to the No. 8 seam of coal, $4\frac{1}{4}$ ft. in thickness; machine mining, mule and motor haulage, electric fan ventilation; employs 14 machine runners, 99 loaders and 36 day hands. The mine is well managed and was always found in good condition throughout the year.

Jan. 13th. In company with Chief Inspector J. C. Davies; the mine was in good condition and no orders were issued.

Sept. 25th. Ordered men to procure boxes in which to store powder.

Nov. 11. Investigated fatal accident to Raymond Russel, who was killed by being run over by the motor.

Dec. 29th. Ordered place provided inside the mine for keeping stretchers, blankets, etc., as required by Sec. 934.

Maynard No. 3.

Located at Hobson Yards, on the K. & M. R. R. Operated by the Maynard Coal Co., Columbus, O. A. G. Preest, Supt.; Wm. Clark, mine boss, both of Middleport, O. Drift opening, penetrating the No. 8 seam of coal, $4\frac{1}{2}$ ft. thick; machine mining, mule and motor haulage, electric fan ventilation; employs 10 machine runners, 52 loaders and 28 day hands. Conditions the fore part of the year were poor, but were much improved the latter part of the year. This mine has some very bad roof which needs constant attention.

Jan. 15th. Conditions very poor; ventilation poor all over the mine and the motor road in very poor condition. Ordered chokes cleaned out of air courses and fan moved to the south inlet. Ordered all loose roof along the motor road either taken down or properly timbered.

March 24th. Investigated fatal accident to Edw. Van Meter, who was killed by a fall of soapstone while at work in his room.

Sept. 23d. Found that a vast amount of work had been done during the suspension towards putting the mine in good condition. All the loose roof along the motor road had been taken down, the track raised out of the mud, the fan moved

to the south inlet and a booster fan installed in the north, and the mine in general was in a vastly improved condition.

Dec. 30th. A squeeze on the south side had choked the air courses so that ventilation was very poor; they were driving a new air course which had only a few feet to go. Ordered blankets, stretchers, etc., taken inside the mine, as required by Sec. 934.

Red Bird.

Located near Silver Run, O., on the H. V. R. R. Operated by the Hocking Domestic Coal Co., Nelsonville, O. Thos. Matheney, Middleport, O., Supt.; Milton McDonald, West Columbia, W. Va., mine boss. Drift opening to the No. 8 seam of coal, 4 ft. thick; machine mining, mule and motor haulage, 2 electric fans for ventilation; employs 6 machine runners, 43 loaders and 19 day hands. The mine was in good condition throughout the year.

March 10th. Mine was in satisfactory condition.

July 16th. Mine was idle.

Nov. 10th. Ordered loose roof taken down on the motor road.

Logan.

Located at Pomeroy, O. Operated by the Peacock Coal Co., Pomeroy, O. Geo. Ebersbach, Supt.; Walter Ebersbach, mine boss, both of Pomeroy, O. Drift opening into the No. 8 seam of coal, 4½ ft. thick; machine mining, mule haulage, furnace ventilation; employs 2 machine men, 6 loaders and 2 day hands.

March 12th. Mine was in good condition.

Dec. 16th. Ordered shields placed on the machine before any more cutting was done.

Silver Run.

Located at Silver Run, O., on the H. V. R. R. Operated by the River View Coal Co., Middleport, O. Emil S. Sauer, Middleport, had supervision until August, when he was succeeded by W. E. Williams, of Rutland, O., and John Trew, of Middleport, became mine boss. Drift opening into the No. 8 seam of coal, 4 ft. thick; machine mining, mule and motor haulage, electric fan for ventilation, which was very good; employs 4 machine men, 21 loaders and 9 day hands. The mine did not operate very much of the time during the year, probably 2 months' work would cover all of the time worked.

June 2. Mine was in good condition.

Dec. 18th. Ordered loose roof along the motor road taken down and men to procure carbide containers and powder boxes.

Fick.

Located at Pomeroy, O. Operated by Philip F. Fick. Drift opening to the No. 8 seam of coal, 4½ ft. thick; pick mining, mule haulage, natural ventilation; employs 7 pick miners, 2 inside day men and 2 wagon drivers. Visited Nov. 13th and found the mine in fine condition in all respects.

Powell.

Located at Hobson, O., on the K. & M. R. R. Operated by the Hobson Coal Co., Rutland, O. W. E. Williams, Supt., Rutland, O.; John Trew, mine boss, Middleport, O. Drift opening, penetrating the No. 8 seam of coal, 4½ ft. in thickness. This mine was operated as a pick mine until the latter part of the year when electric power was installed and a mining machine used. A fire basket was used for ventilation until the electricity was put in, when a fan was installed with good results. Mule haulage; employs 2 machine men, 20 loaders and 6 day hands.

March 13th. Ordered the escapement-way cleaned out and made safe for travel.

June 3. Ventilation was very weak; ordered a fan installed.

July 23d. Found that my former orders had not been complied with and ventilation was worse than ever. I ordered the men home and ordered the mine to cease operations until the fan was installed.

Dec. 30th. The mine was in good condition.

Leading Creek.

Located one mile west of Hobson, O., on the K. & M. R. R. Operated by the Sherman Coal Co., Middleport, O. J. E. Sherman, Middleport, O., has supervision. Drift opening, penetrating the No. 8 seam of coal, $4\frac{1}{2}$ ft. in thickness; machine mining, mule and motor haulage, fan ventilation; employs 2 machine men, 19 loaders and 11 day hands. The mine was in good condition the entire year.

March 13th. Mine was in good condition.

July 17th. Mine was in good condition.

Dec. 2d. Ordered shields put on mining machine as the law requires.

Rolling Mill.

Located at Pomeroy, O. Transportation: The Ohio River Electric R. R. and The Hocking Valley R. R. Operated by The Peacock Coal Co., Pomeroy, O. Wm. Ebersbach, Supt., Pomeroy, O., Jas. Duckworth, mine boss, Syracuse, O. Drift opening to the No. 8 seam of coal, $4\frac{1}{2}$ feet in thickness; machine mining; mule and motor haulage; electric fan ventilation; employs 18 machine runners; 142 loaders and 39 day hands.

The mine was generally in good condition throughout the year.

Jan. 27th. Ordered wires guarded at the mouth of 5-6 W. entries.

May 5th. Investigated fatal accident to Ellsworth Hayman, a driver, who was killed by being run over by a loaded car.

May 6th. Mine was in good condition.

Dec. 3rd. Ordered the non-perishable brattices along the inlet and outlet air-way built up nearer to the face of the main entries.

Ordered loose roof taken down along the haulway in the Old Hill.

Ordered men to procure boxes for keeping powder.

Charter Oak.

Located at Pomeroy, O., on the Ohio River Electric R. R. and the Hocking Valley R. R. Operated by the Peacock Coal Co., Pomeroy, O. Wm. Ebersbach, Supt.; H. V. Carl, mine boss, both of Pomeroy, O. Drift opening into the No. 8 seam of coal, 4 ft. thick; machine mining; mule and motor haulage; ventilated by two electric fans; employs 16 machine runners, 110 loaders and 65 day hands. The top in this mine is very poor in most places and requires constant attention.

Jan. 28th. Ventilation was rather poor in parts of the mine, due to weak doors and brattices. Ordered doors and brattices repaired and loose roof taken down in places noted.

May 7th. Conditions in general were satisfactory; ordered the men to procure carbide containers and powder boxes.

Oct. 20th. To investigate the death of Arthur Raush who died of heart disease while at work in the mine.

Dec. 15-16. Ordered check door built on 25 west entry at the mouth of the south cutoff. Ordered refuse cleaned out of the air course on 19-29 E. and loose roof taken down on the haulage road. Conditions throughout the year were fair.

Thomas Shaft.

Located near Racine, O., on the Ohio River Electric R. R. Operated by the Thomas Coal Co., Racine, Ohio. David Thomas, Supt.; T. W. Lawson, mine boss, both of Racine, O. Shaft opening, penetrating the No. 8 seam of coal. The shaft is 112 feet deep. Machine mining; steam fan ventilation; mule and motor haulage; employes 6 machine men, 42 loaders and 20 day hands. The mine was in good condition throughout the year.

Jan. 16-Sept. 24. Mine was in good condition.

Dec. 17. Ordered place provided inside the mine for keeping accident supplies as required by law.

Ohio River Coal Co.

Located at Pomeroy, O., on the H. V. R. R. Owned by the Ohio River Coal Co., Columbus, O. Leased to J. J. Minehart, of Pomeroy, O., who has supervision. Drift opening into the No. 8 seam of coal $4\frac{1}{2}$ feet in thickness; pick mining; mule haulage. They have a fan for ventilation but it is not used as they have good natural ventilation; employs 7 pick miners and 2 day hands.

March 11th. Found the mine idle.

Nov. 13th. The mine was in good condition.

Dabney.

Located between Middleport and Pomeroy, O., on the H. V. R. R. Operated by Owens Bros., Pomeroy, O. David Owens, Pomeroy, O., has supervision. Drift opening penetrating the No. 8 seam of coal $4\frac{1}{2}$ feet thick, pick mining, mule haulage, natural ventilation; employs 5 pick miners and 3 day hands. The mine is almost worked out. The men are employed drawing pillars and crop coal. It is all consumed by the H. V. R. R. for fuel purposes.

March 11th. Conditions were fair.

Pittsburg.

Located at Minersville, O., on the Ohio River Electric R. R. and the Hocking Valley R. R. Operated by the Pittsburg Mining Co., Pomeroy, O. W. H. Miller, Supt., Pomeroy, O.; John Strickland, Pomeroy, O., mine boss. Drift opening into the No. 8 seam of coal $4\frac{1}{2}$ thick. Machine mining; mule and motor haulage; ventilated by two electric fans; employs 24 machine men, 130 loaders, 45 day hands. Conditions were fair throughout the year. This mine is surrounded by old works which are full of water causing much extra precaution to be taken to avoid flooding the mine but in spite of these precautions the old Syracuse slope mine was broken into in October and this mine flooded very badly, causing them to lose much time and spend considerable money to put the mine in operation again.

Jan. 29th-30th. Ordered break-throughs all over the mine cleaned out and kept clean. Ordered men to procure carbide containers and powder boxes and a check door built on 10 E. entry at No. 4 room.

Oct. 22nd-23rd. Ordered the trolley wire along the 2nd North motor road boarded also at the 2nd South. Ordered doors repaired at 10 W. 1-2 E. and 1-2 W. 2nd North. Ordered the pulley on the 10 W. fan changed so as to increase the speed of the fan.

Noble Summit.

Located 3 miles north of Middleport, O., on the K. and M. R. R. Operated by the Skidmore Coal Co., Columbus, O. Wm. Skidmore, Supt.; Thos. Skidmore, mine boss, both of Middleport, O. Drift opening into the No. 8 seam of coal

4 feet in thickness. Machine mining; mule haulage; furnace ventilation; employs 2 machine men, 15 loaders and 7 day hands.

March 9th. Ordered the main east entries driven to the outside for an escapement way and a guard rail placed around the fly wheel in the engine room.

June 4th. Conditions were satisfactory.

Sept. 24. Ventilation was very weak due to a poor fire in the furnace and leaks in doors and brattices. Ordered doors and brattices repaired at once and a better fire kept in the furnace hereafter.

Dec. 29th. Conditions were satisfactory.

Forest Run.

Located two miles from Pomeroy on a new branch of the H. V. R. R. Operated by the Peacock Coal Co., Pomeroy, O. Wm. Ebersbach, Supt.; Henry Shires, mine boss; both of Pomeroy, O. Shaft opening penetrating the No. 8 seam of coal 4 feet in thickness. This is a new mine just being opened up. They got ready to ship coal the latter part of the year. It will be a large operation and this company has prepared for it by building one of the finest plants in Southern Ohio. Only a few men are employed at present. One visit was made in company with Assistant Chief Deputy J. C. Davies on June 20 to investigate the fatal accident to Samuel Mills, who was killed by a fall of soapstone while working in the cross entry from the manway slope to the shaft bottom.

Essex.

Located two miles from Pomeroy, O., on the K. and M. R. R. Operated by The Calvin Essex Coal Co., Columbus, Ohio. Charles Essex, Pomeroy, O., has supervision. Drift opening into the No. 8 seam of coal 5 feet in thickness. Machine mining; motor haulage; fan ventilation; employs 2 machine runners, 16 loaders and 10 day hands. This is the 9th new mine which was put in operation this year. It will be a large mine when fully developed. Conditions were fine on both inspections.

Sept. 22d. Investigated fatal accident to Clarence Swanger, who was killed by a fall of slate while working in the Dark North entry only a few feet from daylight.

Dec. 31st. Ordered the men to procure boxes for keeping their powder in as required by law. General conditions were very good.

Stalter-Essex.

Located two miles from Pomeroy, O., on the K. and M. R. R. Operated by the Stalter and Essex Coal Co., Columbus, O. Charles Essex, Supt.; Ed. Hite, mine boss, both of Pomeroy, O. Drift opening into the No. 8 seam of coal, 4½ ft. in thickness; machine mining, motor haulage, electric fan ventilation; employs 4 machine runners, 28 loaders and 13 day hands. This is a new mine which was put in operation this year. It will be a large mine when fully developed. Two inspections were made on Sept. 22 and Dec. 31 and the mine was in good condition on both occasions.

Russel Run No. 2.

Located two miles from Pomeroy, O., on the K. and M. R. R. Operated by the Russel Run Coal Co. of Carbon Hill, O. Ben Bailey of Pomeroy, O., has supervision. Drift opening into the No. 8 seam of coal, 4½ ft. in thickness; pick mining at present, but is the intention to install electric machines; natural ventilation and horse haulage; employs 2 pick miners and 7 day hands at

present. This is a new mine which was put in operation the latter part of the year. It will be a fair sized mine when fully developed. Visited on Dec. 31st conditions were satisfactory.

SMALL MINES VISITED IN MEIGS COUNTY.

March 12th. Jim Scott Mine. Operated by Hennesey and Sauer, Pomeroy, O. Employs 6 pick miners and 1 day hand.

Nov. 10th. Robert Cottrell, Middleport, O. Three pick miners.

Nov. 11th. Lewis Stephen, Rutland, O. Two pick miners.

Nov. 11th. Clarence Price, Rutland, O. Three pick miners.

Nov. 11th. David Reese, Rutland, O. Two pick miners.

Nov. 11th. Oscar Hysell, Rutland, O. Three pick miners.

Dec. 4th. Wm. Hines, Pomeroy, O. Seven pick miners.

Dec. 4th. Marion Boss, Pomeroy, O. Two pick miners.

Dec. 4th. Lawrence Guinther, Pomeroy, O. Two pick miners.

Dec. 4th. Roy Fohlmer, Pomeroy, O. Three pick miners.

Dec. 4th. George Bauer, Pomeroy, O. Three pick miners.

Dec. 31st. Charles Densmore, Middleport, O. Two pick miners.

ATHENS COUNTY.

NOTE.—Mr. P. C. Morris, Nelsonville, O., is general superintendent of all the Manhattan Coal Co.'s mines in this district.

Manhattan No. 31.

Located near Buchtel, O., on the H. V. R. R. Operated by the Manhattan Coal Co., Columbus, O. E. W. Woody was in charge until October, when he was succeeded by Geo. McMahon, Murray City, O., and Mr. Woody became mine foreman. Drift opening, penetrating the No. 6 seam of coal, 6 ft. thick; pick and machine mining, horse and motor haulage, ventilated by 1 steam and 2 electric fans; employs 10 pick miners, 16 machine runners, 166 loaders and 90 day hands.

Feb. 6th-17th. Ordered the steam fan run at night so as to free the mine of damp before the men entered in the morning. Ordered brattices and doors repaired in the 3d south. Ordered the men to procure boxes for their powder.

March 27th. Ordered the force of men reduced on 7-8 W. on account of insufficient ventilaition.

Oct. 1st-2d. Stopped No. 7-8-9-11 rooms on 3 W. until the same were properly timbered. Ordered the manhole at the 3d S. switchstand made deeper and larger. Ordered the 3d S. fan moved to the 8 W. entry. Otherwise conditions were satisfactory throughout the year.

Manhattan No. 33.

Located near Buchtel, O. Operated by the Eagle Coal and Shale Co., Buchtel, O. Porter Sweazy, Buchtel, O., has supervision. Drift opening into the No. 7 seam of coal, 4 ft. in thickness; pick and machine mining, pony and motor haulage, electric fan ventilation; employs 2 pick miners, 2 machine runners, 23 loaders and 5 day hands. The mine is almost worked out, the men being employed mostly in drawing pillars.

March 18th. Found the motor road very wet and muddy. Ordered the same cleaned up.

Sept. 1st. Ordered the light on the motor repaired.

Nov. 30. Found the mine almost ready to close down. A new opening was being made in another hill.

Manhattan Nos. 35 and 36.

Located near Buchtel, O., on the H. V. R. R. Operated by the Manhattan Coal Co., Columbus, O. Jno. Shepherd, of Nelsonville, was Supt., and Wm. Pierce, Nelsonville, O., was mine boss until September, when Mr. Pierce succeeded Mr. Shepherd as Supt., and Chas. Titzer, Nelsonville, O., became mine boss. Drift opening, penetrating the No. 7 seam of coal, 4½ ft. in thickness; machine mining, motor haulage, 2 electric fans for ventilation; employs 10 machine runners, 130 loaders and 54 day hands. These mines were formerly operated as separate mines but are now called one mine and operated as such.

March 5th-6th. Ordered the manway in 35 side cleared up and put in shape for travel. Ordered the men to procure powder boxes. Ordered choke cleaned out of the air course in 1-2 north and brattices repaired.

Sept. 29th-30th. Mine was in satisfactory condition except the manways in each side, these were ordered repaired at once.

Dec. 24th. Ordered blankets, stretchers, etc., taken inside the mine, as required by Sec. 934. Ordered wires boarded across the main south switch and mud and water cleaned off the traveling way.

Juniper No. 1.

Located at Buchtel, O., on the H. V. R. R. Operated by the York Clay and Mining Co., Nelsonville, O. A. L. Preston, Buchtel, O., has supervision. Drift opening, penetrating the No. 7 seam of coal, $4\frac{1}{2}$ ft. in thickness; machine mining, mule and motor haulage, electric fan ventilation; employs 4 machine runners, 34 loaders and 10 day hands.

Feb. 18th. Conditions were satisfactory.

Nov. 17th. Ordered doors and brattices repaired. Stoppings between the inlet and outlet made of non-perishable material and men to procure boxes for keeping powder.

Juniper No. 2.

Located at Buchtel, O., on the H. V. R. R. Operated by the York Clay and Mining Co., Nelsonville, O. Hugh Mallen, Nelsonville, O., had supervision until October when he was succeeded by Ed Dugan of Nelsonville, O. Drift opening, penetrating the No. 6 seam of coal, 6 ft. thick; machine and pick mining, horse and motor haulage, three electric fans for ventilation; employs 6 pick miners, 6 machine runners, 40 loaders and 22 day hands.

Feb. 25th. Ordered door built at No. 25 room on 1 E. entry in the Sunshine territory. Take down loose roof and board the motor wire along the same entry. Put in some new hangers on the main motor road, so as to tighten up the trolley wire.

Oct. 26th. Ordered a check door and brattices built in the South Hill so as to force the air to the working faces. Conditions in general were poor.

East Hill.

Located at Buchtel, O., on the H. V. R. R. Operated by the East Hill Coal Co., Nelsonville, O. John McMillan, Supt.; Wm. Clause, mine boss, both of Buchtel, Ohio. Drift opening into the No. 6 seam of coal, 6 ft. thick; machine mining, mule and motor haulage, fan ventilation; employs 8 machine runners, 78 loaders and 27 day hands. This is one of the oldest mines in the state of Ohio. It has been opened up and abandoned four or five times. This is the fourth tittle to be used for this opening. The present operation is confined largely to drawing pillars and the mine is surrounded by old works, making it very hard to properly ventilate and drain the present workings.

Feb. 16th. Ordered loose roof taken down along the motor road and a door and brattice built on 2 W. so as to throw the air up first West.

July 28th. Ordered loose roof taken down at the end of the 2d W. switch and along the north haulage way. Ordered the mouths of the old rooms along 2 W. blocked up tight and brattices repaired in the furnace hill.

Nov. 17th. The mine was in poor condition, too much mud and water all over the mine. Ventilation was so weak in the Crabtree territory that I sent all the men home from this end of the mine except the entry drivers and ordered them to stay out of this territory until the entries were broken through and sufficient ventilation furnished. Conditions in general were unsatisfactory all year.

Maple Hill.

Located 3 miles east of Nelsonville, O., on the H. V. R. R. Operated by the Maple-Gallia Coal Co., Nelsonville, O. C. H. Terry, Supt.; John McKee,

mine boss, both of Nelsonville, O. Drift opening into the No. 6 seam of coal, $5\frac{1}{2}$ ft. in thickness. Machine mining, rope and horse haulage, fan ventilation; employs 22 loaders, 4 machine men and 8 day hands. Visited Feb. 24 and found the mine in satisfactory condition. The mine closed down April 1st and remained suspended the balance of the year.

Sunday Creek No. 10x.

Located near Orbiston, O., on the H. V. R. R. Operated by the Sunday Creek Coal Co., Columbus, O. Gus Malone, Supt.; Jas. Smith, mine boss, both of Nelsonville, O. Slope opening, penetrating the No. 6 seam of coal, $5\frac{1}{2}$ ft. in thickness. Ventilated by one 16 ft. steam fan, machine and pick mining, motor and chain haulage; employs 4 pick miners, 14 machine runners, 149 loaders and 61 day hands.

Feb. 3d-10th. Ordered the manhole along the motor road cleaned out and whitewashed. Clean up the old manway and put it in shape for travel or make manholes from the curve to the outside. Ordered the men to procure boxes for keeping their powder in. Ordered the 7 W. entry off 11 North driven through to the 10 N. and used for an airway. This entry had been stopped for a long time.

Sept. 9th-10th. Visited this mine in company with Assistant Chief Inspector J. C. Davies. Ordered signboards put up showing the route of the escapement way through N. P. No. 5 mine. Ordered fan speeded up and mud cleaned up along the main travel way. Ordered all the men to procure carbide containers and powder boxes before entering the mine again. Otherwise the mine was in good condition.

Rittenberry-Wallace.

Located at Buchtel, O., on the H. V. R. R. Owned by the H. V. Products Co. Operated by Thos. Wallace and Paul Rittenberry, who market the product of the mine for domestic purposes at Buchtel, O. Pick mining, drift opening, No. 6 seam of coal $5\frac{1}{2}$ ft. in thickness, horse haulage, natural ventilation; employs 4 pick miners and 1 day hand. Visited Feb. 18th and found conditions were good.

GALLIA COUNTY.

Carls No. 1.

Located at Carlton, O., on the H. V. R. R. Operated by the Vesper Coal Co., Nelsonville, O. William Larguet, Carlton, O., has supervision. Drift opening into the No. 8 seam of coal, $4\frac{1}{2}$ ft. thick. Pick mining, fan ventilation, mule haulage; employs 30 pick miners and 9 day hands.

Jan. 14th. This visit was made in Company with Chief Inspector J. C. Davies. Ventilation was very poor, due to the air courses being choked by falls and a poor engine on the fan. Ordered the air courses cleaned out, doors and brattices repaired and a new engine put on the fan.

April 14. Ventilation poor. Ordered the old air course closed up, the escapement way cleaned out and used for the inlet airway, and a curtain or check door placed at No. 1 room on 2 S. entry.

July 16th. Stopped the last place in the cutoff territory between the South and West until an airway was driven to the south. Stopped several men from loading any more coal until they timbered their places properly.

Dec. 18. Conditions were good. Ordered the blankets, stretchers, etc., taken inside the mine as required by Sec. 934.

SMALL MINES LOCATED IN GALLIA CO., VISITED NOV. 12.

Harry Russel, Cheshire, O. Three pick miners, 1 day hand.
 C. W. Rife, Cheshire, O. Three pick miners, 1 day hand.
 W. H. Jacobs, Cheshire, O. Two pick miners.
 Howard Shuler, Cheshire, O. One pick miner.
 Wm. Rife, Cheshire. Two pick miners, 1 day hand.
 B. Scott, Cheshire. Two pick miners.
 Stanley Rife, Keyser. One pick miner.
 Freman Kennedy, Keyser. Two pick miners.
 W. C. Ealey, Cheshire R. D. No. 2. Two pick miners, 1 day hand.
 Hollis Van Kirk, Cheshire R. D. No. 2. Two pick miners.
 John Halfhill, Cheshire R. D. No. 2. Three pick miners.
 Frank Sisson, Cheshire R. D. No. 2. Three pick miners.
 Elza Mulford, Cheshire R. D. No. 2. One pick miner.
 Bert Rife, Cheshire R. D. No. 2. Two pick miners.
 Elias Sims, Cheshire R. D. No. 2. Three pick miners, 1 day hand.
Dec. 18th. Albert Frazier, Carlton, O. Two pick hands.

MINES VISITED IN OTHER DISTRICTS.**ATHENS COUNTY.**

July 31st. Clifton. Visited in company with Inspector Ginnan.

Aug. 27th. Hisylvania, No. 23. Visited in company with Inspector Ginnan and Assistant Chief Deputy J. C. Davies

JACKSON COUNTY.

Superior No. 9.

Visited this mine with the mine rescue car and equipment to help extinguish the mine fire at this mine, Aug. 12-13-14-15. A detailed report of this visit will be made by Inspector Burke.

PERRY COUNTY.

Congo.

Visited this mine with the mine rescue car and equipment to help open up the fire territory which had been sealed for nine months. Visits were made Aug. 17-18-19-20-21-22. A detailed report of which will be made by Mr. Grogan, inspector for this district.

THIRD DISTRICT

**ANDREW GINNAN, INSPECTOR.
JACKSONVILLE, OHIO.**

**COMPOSED OF ATHENS COUNTY EXCEPTING MINES INSPECTED BY
INSPECTORS GROGAN AND ALBAUGH.**

(629)

HON. J. M. ROAN, *Chief Deputy and Safety Commissioner, Division of Mines, Columbus, Ohio.*

DEAR SIR:—In compliance with the mining law, I herewith submit to you my annual report of the third mining district which embraces Athens county, commencing January 1st, 1914, and ending December 31st, 1914 inclusive. During that time thirty-three permanent improvements were made, consisting of two furnaces, six fans, four air shafts, two seconds openings, one additional opening, one speaking tube, five fans on which to land cage when hoisting men, four double doors into stairway in air shaft, six hospitals located on the inside of mines, two automatic door extensions; eight sets of scales were tested, seven of which were found to be correct and one incorrect.

Four new mines were opened, six remained suspended and one was abandoned.

Four days were spent plugging oil wells. One hundred and seventy-eight visits were made in this district. Three days were spent in Jackson county at Superior No. 9 mines controlling a fire. Five days were spent at Congo Mine in Perry county which had been sealed up for eight months on account of a fire.

I regret to report two fatal accidents during the year. Henry J. Ley was injured at Mine No. 254 while trimming coal, on August 17th, and died August 24th. Carl Debow was killed by a fall of soapstone in New Pitts., No. 9, while helping Jackson Warren to load his car.

The output of coal in 1914 fell below previous years on account of depression in business and labor troubles. Practically all the coal mines of the state were closed during a greater part of the year.

I wish to state that my official dealings with both miners and those in charge of mines have been with few exceptions of the most pleasant character, and the assistance of both in securing better conditions throughout the mines of this district is fully appreciated.

In conclusion I wish to express my thanks to you, also to Mr. J. C. Davies, who was our chief the first part of the year, and to the department and office force for the valuable advice and counsel given me in the performance of my duties.

Respectfully submitted,

ANDREW GINNAN,
Inspector Third District, Jacksonville, O.

December 31st, 1914.

ATHENS COUNTY.

Sunday Creek No. 10.

Located about two miles west of Glouster, O., on the K. & M. R. R. Operated by the Sunday Creek Co., Columbus, O. D. H. Williams, Glouster, O., Dist Supt.; Walter Hayden, Derthic, O., mine foreman; John Jones, Glouster, O., assistant mine foreman. Shaft opening, 100 ft. deep, No. 6 vein 5 and 6 ft. in thickness; equipped with electric haulage and mining system; fan ventilation; 170 loaders, 20 machine men and 72 day men are employed.

Feb. 17th. Orders were given to remove the bug dust from main haulage ways and obstructions from air course.

Aug. 5th and 6th. Orders were given to increase the ventilation on South and Little South and to not place any new men on those entries until the ventilation was increased.

Aug. 31st. Was called by mine committee claiming that my former orders had not been complied with. The mine superintendent was making every effort to comply with these orders but the time limit was not sufficient and it was extended ten days; also ordered twenty men taken out of the South entry until the ventilation was increased. The company complied with this order and placed these men filling the old stoppings to conduct the air to the South entry.

Sunday Creek No. 201.

Located at Floodwood, O., on H. V. R. R. Operated by The Sunday Creek Co., Columbus, O. Harry Kelley, Nelsonville, O., Dist. Supt.; C. H. Chidister, Nelsonville, O., mine foreman. Shaft opening, 80 ft. deep to the No. 6 vein, 5 to 6 ft. thick. Double entry system; fan ventilation; the coal is mined and hauled by electric power; four men are employed to keep the water out of the mine.

Jan. 28. The mine was shut down and has not worked any during this year.

Sunday Creek No. 203.

Located near Floodwood, O., on the H. V. R. R. Operated by the Hocking Domestic No. 6 Coal Co., Nelsonville, O. Henry C. Boles, Nelsonville, O., has supervision. Drift opening, No. 6 seam, 5 to 6 ft. thick; fan ventilation; equipped with electric power. This mine is leased from the Sunday Creek Co., and consists of pillars and entry stumps. This mine is nearly exhausted.

Visited on *Feb.* 10th, *Nov.* 19th, and found in fair condition on both visits. A small force of from ten to thirty men are employed, taking out what coal is left in the mine. On my visit, *Nov.* 19th, found the mine sub-leased to C. W. Creg & Son, Nelsonville, O., who has full supervision.

Sunday Creek No. 204.

Located near Kimberley, O., on branch of the H. V. R. R. Operated by the Sunday Creek Co., Columbus, O. Harry Kelley, Nelsonville, O., Dist. Supt.; E. C. Dugan, Nelsonville, O., mine foreman. (John Monks, Nelsonville, O., succeeded E. C. Dugan as mine foreman on the last part of the year.) Drift opening, No. 6 seam, 5 to 6 ft. thick; double entry system; fan ventilation; equipped with electric power; motor haulage; machine mining; 48 loaders, 6 machine men and 22 day men are employed. This mine is nearly exhausted. Only pillars and entry stumps remaining.

Jan. 27th and Nov. 6th. Found the mine in good condition. Orders given to keep blasting powder in boxes and refuse from calcium carbide to be taken out of the mine as the law requires.

Sunday Creek No. 209.

Located $3\frac{1}{2}$ miles northeast of Athens, O., on a branch of the H. V. R. R. Operated by the Sunday Creek Co., Columbus, O. Field Scott, Athens, O., Dist. Supt.; John Clark, Poston, O., mine foreman. Shaft opening, 260 ft. in depth, No. 6 seam of coal, 6 ft. thick; double entry system; fan ventilation; electrical motor haulage and machine mining; 170 loaders, 10 machine men and 63 day men are employed.

March 25th. The conditions were not so good. Several places required timbering and several places ahead of air.

April 9th. Called to inspect the old works; found gas in 2 West entry and ordered canvas put up to remove the same at once. The management was desirous of fencing off a portion of the old works, so that the fire boss could make his inspection in four hours. This was refused as it was very important that the old works be inspected every three days as the law requires.

June 7th. Found the mine in good condition.

Aug. 25th. In company with Mr. J. C. Davies, Assistant Chief Inspector, was called to inspect elevator engine and found it in bad condition. A part of the piston rod was defective. The management agreed to put safety catches on main hoist until elevator engine was repaired.

Sept. 3rd. Was called by mine committee to test safety catches.

Sept. 8th. Found the mine in good condition.

Sept. 28th. Motor road in bad condition. Scarcity of timber in rooms. Thomas Roan, Poston, O., mine foreman, who succeeded John Clark.

Sunday Creek No. 210.

Located 2 miles northeast of Athens, O., on the branch of H. V. R. R. Operated by the Sunday Creek Co., Columbus, O. Field Scott, Athens, O., Dist. Supt.; William Altman, Poston, O., mine foreman. Shaft opening, 200 ft. deep, No. 6 seam, 5 to 6 ft. thick; double entry system; fan ventilation; equipped with electrical motor haulage and machine mining; 73 loaders, 6 machine men and 28 day men are employed.

Jan. 8th. Mine in good condition; ordered blasting powder to be kept in boxes and refuse from calcium carbide taken out of the mine.

March 7th. Was called by mine committee in regard to stairway; found same in bad condition, ice being frozen on the stairs for 15 flights, making it nearly impossible to go up or down. Ordered same taken care of at once.

July 20th. Mine idle; visited and inspected the old works and found them in good condition. Ordered a new partition to be put in the air shaft and double doors at the entrance on top of air shaft to stairs.

Sept. 10th. Found the mine in good condition, all orders having been complied with.

Sunday Creek No. 211.

Situated about 3 miles northeast of Athens, O., on a branch of the H. V. R. R. Operated by the Sunday Creek Co., Columbus, O. Field Scott, Athens, O., Dist. Supt.; Herman Thiesen, Poston, O., mine foreman. Shaft opening, 240 ft. in depth, No. 6 seam of coal, 5 to 6 ft. in thickness. Double entry system; fan ventilation; equipped with motor haulage and machine mining; 173 loaders, 19 machine men and 92 day men are employed.

Jan. 16th. Found the mine in good condition. Ordered blasting powder to be kept in boxes and refuse from calcium taken out of the mine.

March 18th and 19th. Inspected the old works and found the ventilation in good condition. A small amount of gas was found in two old rooms and ordered canvas put up to remove same.

April 6th. Called by Mr. Scott, Supt.; the fire boss would not O. K. the mine on this day; the company had cut the fire boss down to 4 hours each day, during the shut down; the fire boss claimed that he could not inspect the old works in four hours. The management agreed to pay the fire boss eight (8) hours every third day to inspect the old works.

July 15th. Inspected the old works before the mine resumed operation; found them in good condition.

Sept. 9th. Found the mine in good condition. Ordered stairs repaired and loose top on 2 North entry taken down.

Dec. 30th and 31st. Found the conditions good. Advance drill holes to be kept drilled ahead in the entries breaking through to 7 and 8 West-North, according to Sec. 938 of the Mining Law of Ohio.

Sunday Creek No. 254.

Situated near Jacksonville, O., on the K. & M. R. R. Operated by the Sunday Creek Co., Columbus, O. D. H. Williams, Dist. Supt., Glouster, O.; John L. McDonald, Glouster, O., mine foreman; William Miller, assistant mine foreman, Glouster, O. Shaft opening, 120 ft. deep to the No. 6 seam of coal, 6 ft. thick; double entry system; fan ventilation; rope haulage; the coal is mined with electric machinery; 165 loaders, 14 machine men, 70 day men are employed.

Feb. 19th. Found the ventilation in fair conditions, excepting places ahead of air; these places were stopped until break throughs were made; dust was ordered removed from main haulage and traveling ways.

Aug. 25th, in company with Mr. J. C. Davies, Assistant Chief Inspector of Mines, made investigation of the place where Mr. Henry J. Ley was injured on August 17th, and died on August 24th. Mr. Ley was trimming coal on the outside of the mine; the car was about half loaded when the other trimmer on the brake dropped the car down further on the scales so as to finish loading the car. Mr. Ley was standing on what is called a running board about 10 inches wide, cribbing the side of the car, and was caught between the car and timber of the tipple, which is about eight inches from railroad car. This squeezed him while the car was being dropped down on the scales. Mr. Ley walked home after the accident. On August 20th, 1914, he was taken to Columbus, O., Mt. Carmel Hospital, and died August 24th, from injuries received.

Sept. 1st and 2nd. Requested an extension placed on patent trap doors on Main North entry.

Nov. 4th. Was called by mine committee to test railroad scales. Found them weighing correctly.

Dec. 21st and 22nd. Orders given to have fine coal loaded out of the mine, as the fine coal was being left in the mine in several places, and that the 15 and 16 west entries be sprinkled; also requested Mr. John L. McDonald, mine foreman, to make a split in the air at the 20 west entry, the return from the west side to return to main shaft, the return from east side of the mine to go out the Cat hole and Phoenix No. 1 mine.

Sunday Creek No. 255.

Situated $2\frac{1}{2}$ miles southwest of Jacksonville, O., on a branch of the K. & M. R. R. Operated by the Sunday Creek Co., Columbus, O. D. H. Williams, Glouster, O., Dist. Supt.; Harry Colley, mine foreman, Millfield, O. Shaft opening, 135 ft. deep, No. 6 seam of coal, 6 ft. in thickness; double entry system; fan ventilation; electric motor haulage and machine mining.

March 5th and 6th. Found the mine in fair condition; ordered the 5 West entry driven to break through on 6 West entry; remove standing gas in the 6 West entry; repaired wire on 3 West entry and remove dust from 13 West entry.

Sept. 4th and 5th. Ordered a trapper placed at the 5 and 6 West doors; the traveling way for the men on the 8 West was in bad condition; ordered it to be put in condition at once for men to travel. The stairway was also in bad condition and ordered the steps repaired from top to bottom. Loose top on main traveling way on south side of the mine was ordered taken down at once.

Sunday Creek No. 256.

Situated at Glouster, O., on the K. & M. R. R. Operated by the Sunday Creek Coal Co., Columbus, O. D. H. Williams, Glouster, O., Dist. Supt.; Harry Cunningham, Glouster, O., mine foreman; Thos. Hopes, Glouster, O., assistant mine foreman. Shaft opening, 80 ft. deep, No. 6 seam of coal, 6 ft. thick; double entry system; fan ventilation; motor haulage; machine mining; 254 loaders, 22 machine men, 81 day men are employed.

Feb. 18th. Visited, in company with Mr. J. C. Davies, Chief Inspector, who was called by the miners to investigate an escape way for the south side of the mine. Mr. Davies will take the question of an additional escape way for this portion of the mine up with the company at Columbus, O., and will report back to the men.

March 16th. Investigated place where the mine broke into mine No. 10.

Aug. 28th. Made inspection in company with Mr. Davies, Chief Inspector, and ordered an escape way for the south side of the mine to be started in two weeks, to make a traveling way to Mine No. 10, or sink an air shaft and provide same with stairs for the safety of men working on the south side of the mine.

Dec. 28th and 29th. The company is making a traveling way from the 19 West Entry to the south side of Mine No. 10, same having been ordered on former visit. The use of calcium carbide was stopped for ten days, as the employes were not taking the refuse out of the mine as the law required. The mine was in good condition.

Sunday Creek No. 266.

Situated two miles west of Glouster, O., on a branch of the K. & M. R. R. Operated by the Sunday Creek Co., Columbus, O. D. H. Williams, Glouster, O., Dist. Supt.; John Collins, Glouster, O., mine foreman; Thos. Cox, assistant mine foreman. Shaft opening, 80 ft. deep, No. 6 seam of coal, 6 ft. thick; double entry system; fan ventilation; equipped with electric power; motor haulage; machine mining; 196 loaders, 16 machine men, 58 day men are employed.

Three inspections were made during the year: Feb. 16th, Aug. 7th and 8th, Oct. 15th, 16th, 17th, 18th, 19th, 20th, 21st, 22nd, 23rd, 24th and 25th. In company with J. C. Davies, removing standing gas from No. 252 Mine on the 7 and 8 West entries. This gas had been sealed up for ten or eleven years. Mine No. 266 had broken into this territory, by drill hole, which the management kept drilled in advance; the mine was closed down while removing the gas as well as Mine No. 256 and No. 267, the men refusing to work until the gas was removed from

this mine. On the 25th, in company with Mr. J. C. Davies, D. H. Williams, John Collins, Thos. Cox, two fire bosses and mine committee, made an inspection of the old works in No. 252 Mine on the 7 and 8 West Entry and found the mine clear of explosive gases. All three mines resumed work on the 26th. On my three former inspections found the mine in good condition, all orders being complied with and conditions throughout the mine were found satisfactory.

Sunday Creek No. 267.

Situated about $3\frac{1}{2}$ miles west of Glouster, O., on a switch of the K. & M. R. R. Operated by the Sunday Creek Co., Columbus, O. D. H. Williams, Glouster, O., Dist. Supt.; John Yaw, same place, mine foreman; Phil Blower, Glouster, O., assistant mine foreman. Slope opening, No. 6 seam of coal, 6 to 7 ft. in thickness; double and triple entry system; fan ventilation; equipped with electric power; chail haulage in the slope; motor haulage and machine mining; 221 loaders, 16 machine men, 80 day men are employed.

March 2nd. Found the mine in good condition. Three brick brattices on Main North entry to be repaired.

March 23rd. Was called by mine committee to investigate pillar work on the 18 West entry, the air being short on account of places falling in and obstructing the air. Gave orders to shoot at quitting time only until the ventilation was in better condition.

Nov. 24th and 25th. Ordered the 5 and 6 West entry sprinkled. Stopped Room No. 7 on 22 East, as it was ahead of air. Loose top on Main North Switch ordered taken down at once. The riding of motor trip by the trapper was strictly forbidden. The mine in general was in good condition.

Sunday Creek No. 275.

Located at Chauncey, O., on the K. & M. R. R. Operated by the Sunday Creek Co., Columbus, O. Field Scott, Athens, O., Dist. Supt.; Ed. Jones, Chauncey, O., mine foreman. Shaft opening, 130 ft. deep, No. 6 seam of coal, 5 and 6 ft. thick; double entry system; fan ventilation; equipped with electric power; motor haulage; machine mining; 138 loaders, 12 machine men and 62 day men are employed.

March 17th. The ventilation on the south side of the mine was in bad condition; several places stopped which were ahead of air; break throughs were not being made according to law. Gave orders that the ventilation be changed and the air conducted through the new air way to the south side of the mine by April 1st.

Oct. 2. Found the mine in good condition; former order to change the air having been complied with, the ventilation was in good shape all over the mine. Orders given that refuge holes be made on motor road as the law required. This mine has a great deal of soap stone top which is very dangerous and requires a great deal of attention.

Sunday Creek No. 281.

Situated about $3\frac{1}{2}$ miles southwest of Jacksonville, O., on a branch of the K. & M. R. R. Operated by the Sunday Creek Co., Columbus, O. D. H. Williams, Glouster, O., Dist. Supt., Carl Fierce, Glouster, O., mine foreman; Chas. Dusz, same place, assistant mine foreman. Shaft opening, 125 ft. deep to No. 6 seam of coal, 5 and 6 ft. thick; double entry system; fan ventilation; equipped with electric power; motor haulage; machine mining; 228 loaders, 16 machine men and 67 day men are employed.

March 3. At the bottom of air shaft and on stairs the ice was frozen and in bad condition the 3 and 4 West entries were ordered sprinkled and dust

removed; several places stopped which needed timbering; trap doors were also in need of repairs on Main East Entry.

Oct. 14th. The ventilation was in bad condition. Calcium carbide refuse was being emptied in the mine. Stopped the use of same for ten days in the mine and ordered more air to be furnished to face of workings.

Oct. 27. Found the ventilation in better condition; the refuse from calcium carbide was being taken out of the mine; refuge holes on motor road was ordered to be cleaned out and whitewashed. Ordered trapper to be placed at the 7 West door. The obstruction on main traveling way was ordered removed and put in a safe condition for men to travel.

Sunday Creek No. 311.

Remained suspended during the entire year.

Sunday Creek No. 212.

Remained suspended during the entire year.

Bailey Run. . .

Situated about two miles south of Jacksonville, O., on K. & M. R. R. Operated by the Pan American Coal Co., Zanesville, O. Lorn Holmes, Jacksonville, O., Supt.; William Deal, same place, mine foreman. Slope opening, No. 7 seam of coal, 4 ft. thick; double entry system; fan ventilation; equipped with electric power motor haulage; machine mining; 94 loaders, 10 machine men and 33 day men are employed.

March 9th. The ventilation on the 1st. North and 5 and 6 West in bad condition; three break throughs open on the 1st North, and ordered same put up at once.

Aug. 24th. Ordered a trapper to be placed at the 5 and 6 West door; ordered trap door to be erected between the 3 and 4 North entry and also between the 3 and 4 South entry.

Dec. 9th. Was called to investigate an accident to Joe Bado, who lost both his feet while unloading a mining machine, with the power on the machine. He was caught by the machine bits and before his partner could shut the power off the machine both his feet were cut off by the bits in the machine.

Dec. 10th. Made inspection of the mine and found it in good condition, all former orders being complied with. Orders were given that no person be permitted to go down the slope while the mine was in operation and no machines unloaded while the power was on machine.

Canaanville.

Located at Canaanville, O., on the B. & O. S. W. R. R. Operated by the Canaan Coal Co., Athens, O. James Allen, Athens, O., Supt.; William Grimes, Canaanville, O., mine foreman, who resigned, and was succeeded by Geo. Jackson, Canaanville, O. Shaft opening, 450 ft. deep to the No. 6 seam of coal, 6 ft. thick; double entry system; fan ventilation; equipped with electric power motor haulage; machine mining; 172 loaders, 16 machine men and 78 day men are employed. Six visits were made during the year.

Jan. 20th and 21st. Idle on account of orders; found the ventilation in good condition; no standing gas. Orders were given to have calcium carbide refuse taken out of the mine.

July 28th and 29th. Inspected the old works on the north and south side of the mine and found air coming through the squeeze on the north side which

was closed so that a man could not pass through on the main west entry; found some standing gas. Ordered canvas put up and gas removed at once. Ordered all loose top taken down and back Main North entry to be cleaned out for a traveling way for the men on the north side.

Sept. 23rd. Found the mine in fair condition. Ordered refuge holes on north side of the mine cleaned out.

Nov. 12th. Found all former orders complied with. Took bottles of return air to have it analyzed at Columbus, O. The condition satisfactory.

New Pittsburgh No. 9.

Situated at Beaumont, O., on the H. V. R. R. Operated by the New Pittsburgh Coal Co., Columbus, O. F. S. Knox, Nelsonville, O., Dist. Supt.; Dan Shay, Nelsonville, O., mine foreman; Tim Shay, same place, assistant mine foreman. Shaft opening, 100 ft. deep to No. 6 seam of coal, 5 to 6 ft. thick; double and triple entry system; fan ventilation; equipped with electric power motor haulage; machine mining; 232 loaders, 16 machine men and 56 day men are employed.

Jan 12th and 13th. Orders given that mine foreman, or his assistant, visit each working place every alternate day; that a fan be erected on which to land cage when hoisting men out of the mine; that refuse from calcium carbide be taken out of the mine; Room No. 7 on 12 East stopped until properly timbered.

July 21st-22d. In company with Mr. Booth, Safety man for the Pittsburgh Coal Co., made inspection of the old works; also the working places, the mine expected to start work in August. Ordered all loose top taken down in rooms and entries before the mine resumed operation. A double door was ordered at top of manway, and that fire boss put date and his initials on face of each place that he inspected.

Dec. 2nd. All former orders had been complied with, and the company had two hospitals erected in the mine, one on the north side and one on the south side. Conditions satisfactory.

Dec. 24. To investigate fatal accident to Carl Debow who was killed Dec. 23rd. Mr. Debow was a driver and went into Mr. Jackson Warren's room to pull his car. The car was not quite loaded, and while Warren was cribbing the car Debow picked up one of the shovels and was shoveling coal into the car. He had only shoveled four or five shovelfuls of coal when soap stone loosened and came down on Debow killing him almost instantly. Warren and his partner, Tipton, tried to pull this soap stone down a short time before, but could not. It sounded solid and was tight at that time, and weighed about 300 pounds. This room had been driven narrow for 30 feet on account of soap stone top. Mr. Debow was single man, 21 years of age.

New Pittsburgh No. 10.

Situated 3 miles north of Athens, O., on the H. V. R. R. Operated by the New Pittsburgh Coal Co., Columbus, O. F. S. Knox, Nelsonville, O., Dist. Supt.; Joe Slater, Athens, O., mine foreman; Fred Slater, same place, assistant mine foreman. Shaft opening, 185 ft. deep to No. 6 seam of coal, 5 to 6 ft. thick; double entry system; fan ventilation; equipped with electric power motor haulage; machine mining; 190 loaders, 16 machine men and 70 day men are employed. This mine only worked four months during the year

Sept. 21st. Found the mine in fair condition. The trap doors needed some repairs. Ordered obstruction removed from traveling way to the man way; and

break through in No. 24 room, on 5 West to be closed to force air to face of working.

Nov. 18th. Ordered break throughs in room made according to law, and that main traveling way be cleaned and put in better condition for men to travel. The rest of the mine was in a satisfactory condition.

Imperial.

Situated near Myers Crossing on the H. V. R. R. Operated by the Elm Rock Coal Co., Nelsonville, O. By Phillips, Nelsonville, O., Supt.; Wm. Koon, Doanville, O., mine foreman. Drift opening, No 6 seam of coal, 5 and 8 ft. thick; fan ventilation, motor haulage, double entry system; machine mining; 64 loaders, 7 machine men and 21 day men are employed. The mine did not work very much during the year. Two visits were made.

Feb. 2nd. A written notice was left with the mine boss for the company to file a map with the Mining Department not later than Feb. 15th, 1914.

Oct. 5. Found the mine in a fair condition. Orders given to conduct the air on the north side of the mine separate from the air on the south side, and to place a guard rail around the pump in the mine. On the old opening nothing but pillars and entry stumps are being worked.

Poston No. 6.

Situated at Millfield, O., on the K. & M. R. R. Operated by the Poston Consolidated Coal Co., Athens, O. D. L. Wallace, Millfield, O., Supt., resigned and was succeeded by Val. S. Cox, Athens, O.; J. N. Brewer, Millfield, O., mine foreman. Shaft opening, 187 ft. deep to No. 6 seam of coal, 6 ft. thick; double and triple entry system; fan ventilation; equipped with electric power motor haulage; machine mining; 137 loaders, 12 machine men and 35 day men are employed.

March 10. The mine was in good condition. Orders given that all refuse from calcium carbide be taken out of the mine as the law requires.

July 25th. All old works and working places inspected and no standing gas was found in the mine.

Nov. 11th. Mining machine was being operated without shield. Stopped the machine man from using the machine until the machine was properly shielded. Conditions satisfactory all over the mine; ventilation was in the best of order.

Poston No. 7.

Situated at Millfield, O., on the K. & M. R. R. Operated by the Poston Consolidated Coal Co., Athens, O. Val S. Cox, Athens, O., Supt., who succeeded D. L. Wallace, Millfield, O.; Reese West, Millfield, O., mine foreman, who succeeded Jerry Hartley, Millfield, O. Slope opening, No. 7 seam of coal, 4 ft. thick; double entry system; fan ventilation; equipped with electric power motor haulage and gathered by motor machine mining; 110 loaders, 8 machine men and 21 day men are employed.

Jan. 22nd. Ordered fire boss employed to inspect the mine before any one entered. Found some gas in the North entry; requested loose top on 1 West entry taken down at once.

March 20th. The ventilation on 1st East cutoff was bad. Ordered part of the men taken from this territory, as the air was not sufficient for the number of men on this cutoff.

Sept. 11. Orders given to employ a competent man as fire boss, as the fire boss then employed made a statement that he was not competent to inspect a mine. This order was to be complied with at once.

Dec. 18th. The use of calcium carbide was stopped for 10 days, as the refuse was being emptied in the mine. After 10 days if the employes complied with the law the use of carbide was to be permitted. Ordered trolley wire guarded when men passed under it. Trap door to be repaired.

Luhrig No. 1 and No. 2.

Situated at Luhrig, O., on the B. & O. S.-W. R. R. Operated by the Luhrig Coal & Mining Co., Athens, O. John Gibbs, Luhrig, O., Supt., who has full charge. Shaft opening, 150 ft. deep to No. 5 seam of coal, 5 and 8 ft. thick; double entry system; fan ventilation; equipped with electric power motor haulage; machine mining; 58 loaders, 6 machine men and 36 day men are employed.

Jan. 15th. The ventilation was in bad condition. Ordered 15 men taken off the north side of the mine, the working territory being about three miles from the air shaft where the fan is located. The coal is nearly exhausted on this side of the mine.

Oct. 13th. Found the ventilation in better condition. The management had gone over the brattice and stopped the leakage of air. Ordered fire boss to inspect old works as the law required. The condition was satisfactory.

Luhrig No. 3 or South Side of No. 2.

Operated by the same company as Nos. 1 and 2, and is under the same management. The coal is brought to the same opening. Employs 101 loaders, 10 machine men and 45 day men.

Jan. 14th. Ordered main traveling way on the motor road to be cleaned. Room No. 41 and 42 on 13 West stopped on account of dangerous top; tested safety catches on hoisting cage; the safety did not catch and when the cage landed on timbers across the shaft, the rope came off the drum flattening the rope, which had to be changed end for end. Orders given that no one ride on the cage until tested the next day in the presence of the mine committee.

March 26th. Found the mine in fair condition excepting the 16 East cutoff which was short of air. Left orders to have more air on the 16 East cutoff.

Dec. 7th. The Conditions satisfactory; all previous orders complied with. A fan was erected under the man hoist cage to land the cage when hoisting men out of the mine.

Hisylvania No. 23.

Situated at Trimble, O., on the K. & M. R. R. Operated by the Hisylvania Coal Co., Columbus, O. John H. Moorefield, Trimble, O., Supt., resigned and was succeeded by E. M. Blower, Trimble, O., who was mine foreman; C. F. Jones, Glouster, O., succeeded E. M. Blower, as mine foreman. Slope opening to No. 6 seam of coal, 6 ft. thick; double entry system; fan ventilation; equipped with electric power motor haulage; machine mining; 58 loaders, 4 machine men and 16 day men are employed.

Feb. 25th. The mine was in fair condition.

Aug. 27th. Inspected, in company with Mr. J. C. Davies, Chief Inspector, and Morris Albaugh, Deputy Inspector No. 2 Dist., in regard to No. 23 breaking into Mine 254, Sunday Creek, the places were stopped and Mr. J. C. Davies took the maps to Columbus, O., and will take the case up with the Mining department and the Sunday Creek Co. The Mining department will forward their decision to the Hisylvania Coal Co. The mine was in good condition.

Dec. 8th. Mining machine shield needed repairing; break through in No. 7 Room on the 2 West; ordered a hospital erected in a suitable place in the mine to keep first aid supplies in 10 days. The mine was in a satisfactory condition.

Hisylvania No. 22.

Situated one-half mile north of Trimble, O., on the K. & M. R. R. Operated by the Hisylvania Coal Co., Columbus, O. John H. Moorefield, Trimble, O., Supt., who resigned and was succeeded by E. M. Blower, Trimble, O.; Chas. F. Jonas, Glouster, O., mine foreman. Slope opening to No. 6 seam of coal, 6 feet thick; double entry system; fan ventilation; equipped with electric power motor haulage; machine mining; concrete tipple and chain haulage in the slope; 130 loaders, 10 machine men and 38 day men are employed.

Feb. 24th. Ordered non-perishable material to be used in break throughs between the inlet and outlet and loose top taken down in the man way slope.

June 29th. Water had broken into the mine by a fall in the old works of Mine No. 23. This mine is connected with No. 22.

July 13th. Standing gas in No. 7 and No. 8 room on the 2 West North. Ordered same removed at once. Ordered the manway put in better condition for men to travel and a light placed on loaded cars pushed ahead of the motor.

Nov. 10th. Found the mine in good condition. Ordered a brattice built between No. 1 and No. 2 Room on the 2 East entry to force the air to face of rooms. All former orders had been complied with.

C. C. Sharp No. 24.

Situated about 1½ miles southwest of Jacksonville, O., on the K. & M. R. R. Operated by C. C. Sharp Coal Co., Nelsonville, O. John Cox, Glouster, O., Supt., who resigned and was succeeded by Ed. Burdette, Jacksonville, O.; Joe Chapman, Jacksonville, O., mine foreman, resigned at the same time as John Cox, Mr. Burdette having full charge. Shaft opening, 107 ft. deep to No. 6 seam of coal, 6 ft. thick; double entry system for ventilation; equipped with electric power mining motor haulage. This shaft was abandoned on March 27th, 1914, and a drift opening to No. 7 seam of coal, 4 ft. thick, was started. At the last of the year 42 loaders, 6 machine men and 21 day men employed.

March 27th. The shaft opening to No. 6 seam of coal was condemned as not being safe to operate; pillars and entry stumps the only coal left.

May 21st. Ordered fan installed at the new opening to No. 7 seam of coal.

June 2. The fan was installed and mine in good condition.

July 27th. Was called to test scales; found they weighing correctly. Loose top on Main North entry to be taken down at once.

Oct. 29. 1 West entry stopped ahead of air. Ordered non-perishable brattice to be installed between the inlet and outlet.

Dec. 11th. Was called in regard to boiler being defective. Reported the same to Mining department. The same was sent to Boiler Inspector. Found the mine in good condition.

Black Diamond.

Situated at Lathrop, O., on the Sharpsburg branch of the M. C. & C. R. R. Operated by the Black Diamond Coal Co., Columbus, O. Geo. W. Chambers, Lathrop, O., Supt.; Joseph West, Lathrop, mine foreman. Drift opening, No. 8 seam of coal, 6 to 9 ft. thick, separated in the center with a natural strata of about 12 inches of gray slate; double entry system; fan ventilation; equipped with electric power motor haulage; machine mining; 158 loaders, 14 machine men and 37 day men are employed.

Sept. 14th. Several places ahead of air stopped until break throughs were made; two mining machines with no shields, and ordered these stopped until

properly shielded as the law requires. The wire all over the mine was in bad condition. Ordered same repaired at once. Tested the scales and found them weighing correctly. This mine has been transferred to Mr. Grogan's District.

Schular.

Situated at Sharpsburg, O., on the M. C. & C. R. R. Operated by Jacob Schular; he has entire supervision. Drift opening, No. 8 seam of coal, 8 ft. thick, including 12 inches of gray slate in the center of the coal; fan ventilation; machine mining; horse haulage; 18 loaders, 2 machine men and 3 day men are employed.

Feb. 5. The mine was not in a very good condition, timber in several places being back 30 ft. from the face of rooms. No shield on mining machine. No stretchers or blankets at the mine. Ordered the shield to be put on machine at once, and that the law in regard to first aid be complied with in ten days.

April 30th. The conditions was much better, former orders having been complied with.

June 30th. Mine shut down. Filled with water. Made no inspection. This mine has been transferred to Mr. Grogan's District.

Federal Valley No. 1.

Situated at Broadwell, O., on the M. C. & C. R. R. Operated by the Burn Coal Co., Broadwell, O. F. L. Gibraith has supervision. Slope opening to No. 8 seam of coal, 8 ft. thick including 12 inches of gray slate in the center of the coal; fan ventilation; the coal is mined with electric power, rope and mule haulage; 8 loaders, 2 machine men and 2 day men are employed.

Feb. 4th. The ventilation was in bad condition; boards and slate brattice was the only material used for brattices. Ordered brattices repaired and more air to the face of working places; left a written notice with the management to file a map of the mine with the Mining department by February 20th, 1914.

June 22nd. Orders given to change the fan on the left side of the main opening and to use non-perishable brattice between inlet and outlet. The main entry has been in a fault and the rock had to be shot down to make proper height. The M. C. & C. R. R. takes the output for coaling their engines.

This mine has been transferred to Mr. Thomas Grogan's District.

Big 4 Broadwell.

Situated at Broadwell, O., on the M. C. & C. R. R. Operated by the Big 4 Coal Co., Broadwell, O. Dan James, Broadwell, O., has entire supervision. Slope opening to No. 8 seam of coal, 5 to 6 ft. thick including the impurities; fan ventilation; electric power; rope and motor haulage; machine mining; 15 loaders, 2 machine men, 5 day men are employed.

Feb. 4th. The ventilation was in bad condition. The mine is nearly exhausted and the drawing of pillars and entry stumps is the only work being done. Boards and slate brattice used between the inlet and outlet. Ordered these brattices to be gone over to better the condition of the air.

April 30. The condition was no better than on my former visit. No system was used in taking the coal out. Ordered an escapeway for the men at the head of the 5 West entry, to be driven to the outside of the mine. The surface was thin at this place.

June 22nd. Found a boy working in the mine under 16 years. Ordered him out of the mine at once. Trolley wire on main haulage to be repaired. The mine was in fair condition.

This mine has been transferred to Mr. Grogan's District.

Carbon or Wells.

Remained suspended during the entire year.

Doanville No. 1. A.

Situated at Myers Crossing, on the H. V. R. R. Operated by Taylor and Beaty, Nelsonville, O., who had full supervision. The mine was operated the first part of the year. Has not worked since April 1st, 1914. Drift opening, No. 7 seam of coal, about 5 ft. thick; double entry system; fan ventilation. The coal is mined and hauled by electric power; 18 loaders, 2 machine men and 5 day men are employed.

March 30th. The miners had cleaned up and the mine had stopped. No inspection was made.

Doanville No. 1.

Situated at Myers Crossing, on the H. V. R. R. Operated by James Meenan, Nelsonville, O., who has full supervision. This mine was formerly operated by Taylor and Beaty. Slope opening to No. 6 seam of coal, 6 ft. thick; fan ventilation; equipped with electric power; machine mining; motor haulage; 16 loaders, 2 machine men and 5 day men are employed.

Nov. 7th. The ventilation was in bad condition. Ordered three brattice built to conduct the air to the working places.

Nov. 16th. Called by the mine committee in regard to the ventilation; it was no better than on my former visit. The order to build brattice had not been complied with. I had Mr. Meenan to open up the old man-way which had fallen in. This was done while I was there and it relieved the conditions at the place where the men were working. Ordered a break through made through two pillars. This will give an outlet to the places which are to be worked. Pillar and entry stumps is all the coal that is left in this mine.

Robbins.

Situated at Nelsonville, O., on the H. V. R. R. Operated by C. Robbins Coal Co., Nelsonville, O. Wm. Burnell, Nelsonville, O., Supt and mine boss. Two drift openings to No. 6 seam of coal, 5 to 6 ft. thick; double entry system fan ventilation; equipped with electric power; motor haulage and motor gathering; machine mining; 108 loaders, 8 machine men and 20 day men are employed.

Jan. 27th. Found the mine in good condition.

Sept. 30th. Stopped four entries until the breakthroughs were bratticed up; three breakthroughs on each entry were open back from the face, otherwise the mine was in good condition.

Nov. 17th. Ordered trolley changed to south side of entry on 2 W. so that the miners would not have to push cars under the wire and that breakthroughs in rooms be made according to law. The rest of the mine was in good condition.

New York No. 34.

Situated at Floodwood, O., on the H. V. R. R. Operated by the Manhattan Coal Co., Nelsonville, O., the first part of the year; the last half of the year the New York Coal Co., Columbus, O., operated the mine. Matt Brandenburg, Nelsonville, O., has full supervision. Slope opening, No. 6 seam of coal, 4 to 6 ft. thick; fan ventilation; equipped with electric power; rope and mule haulage; machine mining. Two visits were made during the year. Feb. 10th and Nov. 20th the mine has driven into a fault and four entries is all that is working until the mine developed on the other side of the fault. The conditions of air is good.

W. P. Rice.

Situated one-half mile south of Palos on K. & M. R. R. Operated by W. P. Rice Coal Co., Dayton, O. C. D. Dixon, Glouster, O., Supt.; George Lamb, Rose Farm, mine foreman. Shaft opening 20 feet deep to No. 7 seam of coal, 4 ft. thick; double and triple entry system; fan ventilation; equipped with electric power; mule haulage; machine mining; 24 loaders, 4 machine men and 8 day men are employed. This is a new mine and has not been fully developed. Six visits were made during the year. Jan. 23d, March 11th, April 20th, May 15th, June 19 and July 30. Buildings are being erected in compliance with the mining law. July 30th fan was erected. Ordered non-perishable brattice to be built between inlet and outlet. The company has complied with all orders issued and the mine was in good condition. This mine has been transferred to Grogan District.

Lama No. 4.

Situated at Nelsonville, O., on H. V. R. R. Operated by J. M. Lama & Son. Nate French has full supervision. Drift opening to No. 6 seam of coal, 6 ft. thick; crop coal and pillars; mule haulage; pick mining; natural ventilation; 13 pick miners and 4 day men are employed. Visited Feb. 2d, the mine was in good condition owing to the nature of the work. Left a written notice with the management for him to file a map with the Mining Department at Columbus, O., by Feb. 15th, 1914.

Clifton Coal Co.

Situated at East Clayton, O., on H. V. R. R. about 2 miles north of Nelsonville, O. Operated by Clifton Coal Co., Nelsonville, O. George McKee, Nelsonville, O., has full supervision. Drift opening to No. 6 seam of coal; natural ventilation; pick mining; mule haulage; 10 pick men and 2 day men are employed.

June 24th. Orders given to stop solid shooting. No permit being granted to shoot off the solid.

July 8th. Part of the mine broke into the old works of Laurel Hill mine. Stopped this part of the mine until a fan was erected.

July 31st. In company with Morris Albaugh, Dist. Inspector of the 2d Dist., was ordered to investigate a petition from the Clifton Coal Co. and the miners asking for a permit to do solid shooting. Recommended that permission be given to shoot the coal off of the solid in one entry which was very wet. The same to be annulled when the water was out so the coal could be mined.

Silcott Coal Co.

Situated at Floodwood, O., on the H. V. R. R. Operated by J. W. Jonas Coal Co., Nelsonville, O., who sold out to the Standard Coal Co., Nelsonville, O. A. C. Hampton, Supt. and mine boss, Nelsonville, O. Drift openings, getting out crop and pillar coal. Employs 30 pick miners and 5 day men; mule haulage. Three visits were made during the year, May 4th, Sept. 29th and Nov. 27th.

Sept. 29th. Mine was in bad condition. Stopped No. 1 opening until an air shaft was put down. At No. 2 opening a wall was ordered to be built at furnace in the air shaft.

Nov. 27th. Conditions improved; tested scales, found them weighing correctly. Ordered company to purchase test weights and have the same at the mine within the next ten days.

Meeker Run.

Situated near Kimberly, O., on the H. V. R. R. Operated by Meeker Run Coal Co., Nelsonville, O. Frank Patten, same place, mine foreman. Drift opening to No. 6 seam of coal, 5 to 6 ft. thick; fan ventilation; mule haulage. Pillars and crop coal is all that is being worked. Nineteen loaders and pick men, 6 day men, 1 machine man. One visit was made, Nov. 6th, found the mine in good condition, owing to the nature of the work.

MINES EMPLOYING LESS THAN TEN MEN.**L. and H.**

Situated at Big Run on M. C. & C. R. R. Remained suspended during the entire year.

Glouster Domestic.

Situated at Glouster, O., on K. & M. R. R. Remained suspended during the entire year.

Young and Ogg.

Situated at Broadwell, O., on the M. C. & C. R. R. Drift opening to No. 8 seam of coal, 8 ft. thick; employs from 2 to 4 men; wagon mine. Ordered second opening to be made.

No. 503.

Located on Bailey Run, $1\frac{1}{2}$ miles north of Chauncey, O. Operated by W. F. Smart, Millfield, O. Drift opening to No. 7 seam of coal, 4 ft. thick; furnace ventilation; wagon mine; no railroad; employs from 3 to 4 pick miners. Two visits were made during the year, April 2d and July 7th. Orders were given to load the fine coal out of the mine as the law requires.

Geo. Adams No. 1.

Located at Nelsonville, O. Operated by Oscar Bates, Nelsonville, O. This coal is hauled to Nelsonville Brick Plant in wagons. Crop and stumps coal from No. 207 mine. From 3 to 5 pick miners and employed. Two visits were made during the year, April 3d and June 3d. Mine was in good condition.

Geo. Adams No. 2.

Located at Nelsonville, O. Operated by George Hampton, Nelsonville, O. Crop and pillar coal from No. 207 Mine. This coal is hauled in wagons to Nelsonville Brick Plant. Employs from 3 to 5 pick miners. Two visits made during the year, April 3d and July 6th. Ordered air shaft made on April 3d. July 6th air shaft made and the mine in good condition.

Lowden Mine.

Located at Nelsonville, O. Operated by Earl Lowden, Nelsonville, O. Drift opening to No. 6 seam of coal, 6 ft. thick; furnace ventilation; employs 3 to 4 men; hauls the coal to Nelsonville Brick Plant. Visited April 3d, found the mine in good condition.

Jno. Sanders Mine.

Situated on pike $\frac{1}{2}$ mile north of Nelsonville, O. Operated by Jno. Sanders, Nelsonville, O. Drift opening to No. 6 seam of coal, 5 to 6 ft. thick; employs 3 pick miners; hauled coal in wagons to Nelsonville Brick Plant. Visited April 3d, had only one opening. Ordered the second opening made as soon as possible.

Mason No. 1.

Situated at Doanville, O., on the H. V. R. R. Drift opening to No. 6 seam of coal. Operated by G. A. Mason, Doanville, O. Hauled coal to railroad in wagon; employs from 5 to 6 pick miners. Visited April 15th, the mine was not working. Crop and stumps is the only coal to be worked.

Nixson Mine.

Remained suspended during the entire year.

Graham Mine.

Situated at Nelsonville, O. Drift opening to No. 6 seam of coal, 4 to 6 ft. thick; natural ventilation; has about two acres of coal; hauled in wagons to Nelsonville Brick Plant; employs 3 to 4 pick miners. Visited April 16th, the conditions were fair.

Burgess Mine.

Located at Butchtel, O. Operated by Arthur Burgess, Butchtel, O. Employs 3 pick miners; domestic trade. Visited April 29. Crop coal from the old East Hill mine is being worked.

Hocking Valley Coal Mining Co.

Located at Nelsonville, O. Operated by Frank Feer, Nelsonville, O. Employs 8 pick miners to furnish coal to the Hocking Valley Brick Co. Furnace ventilation. Visited May 7th, was in good condition.

Skivers

Situated at Nelsonville, O. Operated by Wm. Bumgardner, Nelsonville, O. Drift opening to No. 6 seam of coal, 4 to 6 ft. thick; natural ventilation; employs 3 pick miners. The coal is used by the Nelsonville Brick Plant. Crop and pillar coal. Visited May 20th, found in fair condition.

Roberts.

Located at Broadwell, O., on the M. C. & C. R. R. Operated by Frank Roberts, Broadwell, O. Drift opening to No. 8 seam of coal, 5 to 8 ft. thick; natural ventilation; employs 2 pick miners. The coal is used for domestic purposes at Broadwell, O. Visited June 23d, found the mine in good condition.

ATHENS COUNTY CLAY MINES.**Nelsonville No. 1.**

Situated at Nelsonville, O., on the H. V. R. R. Operated by the Nelsonville Brick Co., Nelsonville, O. Sam Robinson, Nelsonville, O., has full charge. Drift opening to No. 5 seam of clay, 6 to 8 ft. thick; fan ventilation; motor haulage; 15 miners and 16 day men are employed.

Feb. 11th. Found the ventilation in bad condition. Ordered fan installed.

April 21. Conditions same. The Company had furnished fan but which had not been erected. Ordered fan to be installed by April 28 or the mine would be closed until fan was erected and in operation.

July 2d. Fan installed; ventilation good.

July 14th. Called by the Company in regard to an order left to split 183 ft. pillar.

Dec. 15th. The mine was closed for repairs. The mine foreman and three men employed making opening to outside of mine for air course.

Nelsonville No. 2.

Situated at same place as No. 1. Operated by the same Company. Joe Rosco, Nelsonville, O., has charge. Drift opening to No. 5 seam of clay, 7 to 9 ft. thick; fan ventilation; motor haulage; 21 miners and 11 day men are employed.

Feb. 11th. Found the mine in good condition.

April 21st. The fan was shut down and no ventilation in the mine. Ordered the men out of the mine at once and to stay out until the fan was put into operation.

May 19th. The new fan was in operation and mine in good condition.

July 1st. Mine in good condition.

Dec. 14th. Three places ahead of air which were stopped until break-throughs were made. The rest of the mine was in a satisfactory condition.

Hocking Valley Clay Mine.

Situated at Nelsonville, O., on the H. V. R. R. Operated by the Hocking Valley Fire Clay Co., Nelsonville, O. Charles Ray, Nelsonville, O., has full charge. Drift opening to No. 5 seam of clay, 6 to 8 ft. thick; fan ventilation; mule haulage; 7 miners and 7 day men are employed.

Feb. 12. The mine idle on account of repairs.

May 8th. Ordered a fan installed within 30 days.

June 26th. Fan was installed and giving good results. Mine was in a satisfactory condition.

Dec. 16th. Closed down for repairs.

NOTE: The following mines were visited outside of this district during the year at the request of the Chief Inspector of Mines and a more detailed report will be made by the inspector in whose district the mines are located.

JACKSON COUNTY.**Superior No. 9.**

Located three miles southeast of Wellston, O., on the C. H. & Day Ry. Adam Lafferty, Wellston, O., Supt. The tippie burned down extending to the shaft, setting fire to the coal on bottom of shaft. Spent Aug. 12th, 13th and 14th with rescue car from Columbus, O., in fighting this fire.

PERRY COUNTY.**Sunday Creek Co. No. 302.**

Located at Congo, O., on the Z. & W. R. R. Operated by the Sunday Creek Co., Columbus, O. J. J. Murray, Congo, O., Supt. The mine had been sealed up for 8 months. Aug. 17th, 18th, 19th, 20th and 21st in company with Chief Inspector J. M. Roan and all the deputies went to this mine to ascertain whether the fire had been extinguished. A full report will be made by Mr. Thomas Grogan's annual report.

The Blue Jay Coal Co.

Located at Burr Oak, O., on the K. & M. R. R. Operated by the Blue Jay Coal Co., Wellston, O. J. M. Murday, Burr Oak, O., has charge. Slope opening to No. 7 seam of coal, 4 ft. thick; rope haulage; fan ventilation; 3 pick men and 3 day men are employed. Visited Jan. 23d and May 1st. This is a new mine and not yet developed. The company intends to put machines in this mine; they are putting in an electric plant.

FOURTH DISTRICT

ISAAC HILL, INSPECTOR.

ZANESVILLE, OHIO.

(Resigned January 1, 1915.)

**COMPOSED OF MUSKINGUM COUNTY, A PORTION OF COSHOCTON, AND
PERRY COUNTIES.**

(647)

Hon. Industrial Commission of Ohio.

DEAR SIRs:—I hereby submit my annual report for your approval of the Fourth Mining District of Ohio, embracing the county of Muskingum and a part of Perry and Coshocton, for the year beginning January 1st, 1914, and ending December 31st, 1914.

During the time covered by this report one hundred and twenty-two (122) visits were made to mines, twenty-eight (28) to oil fields, fifty (50) days spent in office work and thirteen (13) days in Columbus training and office duties. Owing to the cessation of work in the district due to the strike and poor work, many of the mines were idle the better part of the year. On account of mining conditions generally very few improvements were made in the mines during the year. One fan was ordered; one second opening made; and one new mine opened up. I regret to report one fatal accident. Ed Cochran, who was killed November 19th in C. & E. mine.

In conclusion I beg to thank you and your office force for the courteous treatment received during my term of office.

Respectfully submitted,

ISAAC HILL,
Inspector Fourth District.

December 31, 1914.

MUSKINGUM COUNTY.

Buckeye.

Located one mile south of Buckeye, on a branch of the Cannellville Division of the Z. & W. R. R. Operated by the Jonathon Creek Coal Co., Pittsburgh, Pa. Wm. Reed, Zanesville, O., Supt. and mine boss. Drift opening to No. 6 seam of coal about $3\frac{1}{2}$ ft. thick; machine mining; motor and mule haulage; fan ventilation; employs 4 machine runners, 22 loaders and 7 day hands. Four visits were made. January 19th, mine idle; January 29 and February 9, ordered some repairs but mine suspended work on April 1st and is still idle. Visited August 18th, found repairing tippie.

Elk.

Located near Roseville, O., on C. A. & C. R. R. Operated by Elk Coal Co., Columbus, O. S. E. Raney, Supt.; R. Robb, mine boss, both of Roseville, O. Drift opening to No. 6 seam of coal, $3\frac{1}{2}$ ft. thick; machine mining; motor and mule haulage; fan ventilation; employs 12 machine runners, 60 loaders and 28 day hands. Seven visits were made. March 9th, June 22d-23d, July 10th-13th, August 12th and November 17th. Conditions fair except June 23d. Ordered new fan which was complied with.

Granger.

Located near Buckeye Station on the O. & L. K. R. R. Owned and operated by Pan-American Coal Co., Zanesville, O. John Walker, Zanesville, O., Supt. and mine boss. Drift, No. 6 seam of coal, about $3\frac{1}{2}$ ft. thick. Machine mining; motor and mule haulage; fan ventilation; employs 6 machine runners, 44 loaders and 13 day hands. Two visits were made.

Feb. 10. Found stoppings in poor condition and water on roadway, ordered improved.

Aug. 31st. Found mine idle, same April 1 and remained so rest of year.

Redbud.

Located at Cannelville, O., on the Z. & W. R. R. Operated by Redbud Coal Co., Cannelville, O. W. H. Blaney, Cannelville, O., Supt. and mine boss. Drift opening to No. 6 seam of coal, $3\frac{1}{2}$ ft. thick. Rope haulage; fan ventilation; coal is mined by solid shooting; employs 22 miners and 8 day men. Two visits were made, January 21 and February 2, conditions fair. Mine suspended from April 1 the remainder of year.

Pan American.

Located at Cannelville, O., on the Z. & W. R. R. Operated by the Pan-American Coal Co., Zanesville, O. Charles Holmes, Cannelville, O., Supt. and mine boss. Slope opening to No. 6 seam of coal, $3\frac{1}{2}$ ft. thick; rope and motor haulage; fan ventilation; machine mining; employs 8 machine runners, 55 loaders and 19 day men. Nineteen visits were made. August 17th, ordered second opening; September 8th, visited mine and found second opening completed and mine affected by a squeeze; September 10th, 12th, 14th, 21st, 22d, 23d, 24th, 25th and October 1st, 6th, 7th, spent observing the movement of the squeeze which started on main entry at No. 6 room from passway at bottom and extended 13 rooms and across to first west north and to first west south. Orders given to drive room 28 on east west to main west and make an outlet which was rushed through, making the mine safe. Nov. 27th, conditions fair.

Rose Hill.

Located at Cannelville, O., on the Z. & W. R. R. Operated by Rose Hill Coal Co., Detroit, Mich. Wm. Ball, Cannelville, O., Supt. and mine boss. Drift to No. 6 seam of coal, $3\frac{1}{2}$ ft. thick; motor and mule haulage; machine mining and solid shooting; employs 6 machine runners, 48 miners and 13 day men. Five visits were made.

Jan. 4th, *Aug.* 26th. Conditions of mine fair except shooting off solid without a permit which was ordered stopped until permit was granted.

Aug. 14th, *Oct.* 13th and *Nov.* 13th. Conditions fair.

Monitor.

Located one mile south of Darlington, O. Operated by the Monitor Coal Co., Zanesville, O. C. A. Case, Zanesville, O., Supt.; Enos Miller, Darlington, O., mine boss. Drift opening to No. 6 seam of coal, $3\frac{1}{2}$ ft. thick; machine mining; motor haulage; fan ventilation; employs 12 machine runners, 57 loaders and 14 day men. Six visits were made.

Feb. 18, *March* 19th, *Sept.* 30, *July* 23d and *Dec.* 9th-10th. All visits found mine in good condition.

Garrett.

Located at Garretts Station, on the O. & L. K. R. R. Operated and superintended by J. J. McGarvey, Philo, O., Drift, No. 6 seam, 3 ft. thick; mule haulage; furnace ventilation; pick mining; employs 12 miners and 3 day men. Five visits were made.

Jan. 2d, *March* 6th, 30th. Conditions fair.

Aug. 13. Ordered new second opening.

Oct. 16. Second opening not completed and mine idle.

Saltgum.

Located one mile south of Zanesville, O. Operated by Wm. Werner, Zanesville, O. O. C. Huey, same place, Supt. and mine boss. Drift to No. 6 seam, 3 ft. thick; solid shooting; employs 10 miners. Three visits were made.

March 10th, *June* 15th and *Oct.* 20th. Conditions fair.

Wellers No. 3.

Located one mile south of Zanesville, O. Operated by Wm. Weller, Zanesville, O. Drift, No. 6 seam, 3 ft. thick; employs 8 miners. Five visits were made.

March 12th, *July* 22d-27th, *Oct.* 15th and *Nov.* 18.

Small domestic mines visited in Muskingum county, employing less than ten men. All located in and around Zanesville, O., and operating in No. 6 seam of coal about 3 ft. thick, unless otherwise designated.

Barkers.

Operated by Wm. Barker. No. 5 seam of coal; employs 6 men. Two visits, *March* 23d and *August* 28th.

Morgan.

Operated by J. W. Morgan. No. 7 seam of coal; employs 7 miners. One visit, *March* 23d.

Wm. Fisher.

Operated by Wm. Fisher. Employs 5 miners. Three visits, April 9th, July 1st and Nov. 19th.

F. Paul.

Operated by F. Paul. Employs 6 miners. One visit, Sept. 4th.

P. Paul.

Operated by P. Paul. Employs 4 miners. One visit, Nov. 14th.

H. Spinks.

Operated by H. Spinks. Employs 5 miners. One visit, Oct. 8th.

Moorehead.

Operated by Wm. Werner. Employs 9 men. One visit, Oct. 9th.

Turkey Run.

Operated by Pan American Coal Co. Employs 4 men. One visit, Nov. 23d.

Harper.

Operated by T. Harper. Employs 5 men. Two visits, June 29d and Sept. 2d.

Greiner.

Operated by H. L. Greiner. Employs 4 men. One visit, July 2d.

Besser.

Operated by John Besser. Employs 6 men. One visit, Oct. 12th.

White.

Operated by H. BB. White. Employs 5 men. One visit, Oct. 21st.

Porter Bros.

Operated by Porter Bros. at Mt. Sterling. No. 7 seam; employees 8 men. Visited Oct. 22d.

Dixon & Huey.

Operated by Dixon and Huey. Employs 6 men. One visit, Sept. 1st.

Tumblin.

Operated by Robert Tumblin. Employs 10 men. Two visits, March 13th and Sept. 3d.

Lemon.

Operated by E. E. Lemon. Employs 2 men. One visit, Sept. 1st.

Harper.

Operated by C. Harper. Employs 5 men. Three visits, March 27th, June 29th and Aug. 27th.

Hook & Williams.

Operated by Hook & Williams. Employs 2 men. One visit, August 27th. Address: Philo, O.

Williams.

Operated by E. Williams, Philo, O. Employs 2 men. One visit, Aug. 27th.

Lehigh No. 1.

Located at Ironspot, O. Operated by Hydraulic Press Brick Co. Wm. Earheart, Roseville, O., Supt. Two visits were made, Jan. 22d, found repairing to operate; Nov. 16, idle.

Lahew.

Operated by G. Lahew. Employs 5 men. One visit, Nov. 9th.

Mautz.

Operated by J. Mautz. Employs 4 men. One visit, Nov. 10th.

Burgess.

Operated by Wm. Burgess. Employs 4 men. One visit, Nov. 12th.

Alexander.

Operated by S. E. Alexander. Employs 4 men. One visit, Jan. 23d.

Wigdons.

Operated by S. M. Wigdon, Roseville, O. No. 6 seam of coal 3 ft.; employs 8 men. Two visits, June 26th and Oct. 27.

G. Wigdon Clay.

Operated by G. Wigdon, Roseville, O. Employs 2 men. Visited June 25th.

PERRY COUNTY.

Keystone No. 3.

Located at Crooksville, O., on C. A. & C. R. R. Operated by Zanesville Coal Co., Zanesville, O. Thos. Opie, Supt.; G. M. Jones, mine boss, both of Crooksville, O. Drift opening to No. 6 seam of coal, $3\frac{1}{2}$ ft. thick; fan ventilation; motor and mule haulage; pick and machine mining; employs 54 miners and 24 day men. Seven visits made.

Feb. 16th. Conditions fair.

March 15th-16th was called to mine, that oil had drilled through mine and let gas in mine, but found no gas.

July 20th, Oct. 2d and Dec. 7th-8th, conditions fair.

Keystone No. 4.

Located at Roseville, O., on C. A. & C. R. R. Operated by Zanesville Coal Co., Zanesville, O. Thos. Opie, Crooksville, O., Supt.; Thos. Evans, Roseville, O., mine boss. Drift opening to No. 6 seam of coal, $3\frac{1}{2}$ ft. thick; fan ventilation; motor and mule haulage; machine mining; employs 8 machine runners, 51 loaders and 16 day men. Five visits were made.

March 24th, Aug. 10th-21st, Oct. 14th and Nov. 24th. On all visits found mine in fair condition.

Keystone No. 5.

Located at Crooksville, O., on the Z. & W. R. R. Operated by Zanesville Coal Co., Zanesville, O. Thos. Opie, Crooksville, O., Supt.; Ed Moore, Saltillo, O., mine boss. This mine was idle most of year. Visited Oct. 5th, found idle.

Saltillo.

Located at Saltillo, O., on Z. & W. R. R. Operated by Saltillo Coal Co., Zanesville, O. L. D. Able, Zanesville, O., Supt. and mine boss. Drift opening, No. 6 seam of coal, $3\frac{1}{2}$ ft. thick; fan ventilation; machine mining; motor and mule haulage. Two visits were made.

Jan. 29th. Conditions fair.

Sept. 28th. Ordered second opening in 60 days.

C. & E.

Located at Redfield, O., on Z. & W. R. R. Operated by Al. Simon & Son, Redfield, O. Al. Simon, Supt. and mine boss. Drift to No. 5 seam of coal, 4 ft. thick; fan ventilation; motor and mule haulage; machine mining; employs 6 machine runners, 30 loaders and 9 day men. Three visits were made.

Feb. 11 and *March* 5. Conditions fair.

Nov. 20th. Investigated fatal accident of Ed. Cochran.

SMALL MINES PERRY COUNTY.

Chilcote.

Operated by E. W. Chilcote, Mt. Perry, O. Employs 3 men. Vived August 6th.

20 Century.

Operated by Gus. Carl, Redfield, O. Employs 5 men. Visited March 4.
Mine was abandoned in March.

Wigdon & Robinson.

Operated by Wigdon and Robinson of Roseville, O. Mine is situated at McLuney, O. Visited on February 12, found idle.

CLAY MINES PERRY COUNTY.**Stoneburner.**

Operated by H. E. Stoneburner, Crooksville, O. Employs 4 men. Visited June 30.

Kennons.

Operated by R. D. Kennon, Crooksville, O. Employs 4 men. Visited July 1st.

Wigdon and Robinson.

Operated by Wigdon & Robinson of Roseville, O. Mine situated at McLuney, O. Employs 4 men. Visited February 12th.

COSHOCKTON COUNTY.

Barnes No. 1.

Located near Conesville, O., on the W. & L. E. R. R. Operated by the Barnes Coal & Mining Co., Coshocton, O. R. N. Barnes, Coshocton, O., Supt.; C. H. Crossley, Conesville, O., mine boss. Drift to No. 6 seam, 4 ft. thick; fan ventilation; mule haulage; pick and electric machine mining; employs 6 machine runners, 35 loaders and 18 day men. Two visits were made.

Feb. 17th. Conditions fair.

Sept. 29th. Found mine idle since April 1st and remained so the entire year.

Barnes No. 2.

Located $1\frac{1}{2}$ miles from Conesville, O., on the W. & L. E. R. R. Operated by same company as No. 1. C. C. Hudson, Coshocton, O., Supt. and mine boss. Drift to No. 6 seam, 4 to $4\frac{1}{2}$ ft. thick; electric machine mining; motor and mule haulage; fan ventilation; employs 41 miners and 14 day men. One visit was made, February 5th, conditions fair. Suspended April 1 the remainder of year.

Conesville No. 1.

Located near Conesville, O., on the Pan Handle R. R. Operated and superintended by J. G. Davies, Conesville, O.; Albert Dawson, same place, mine boss. Drift to No. 6 seam, 3 ft. 8 in. thick; furnace ventilation; pick and machine mining; mule haulage; employs 15 miners and 5 day men. Three visits were made.

Feb. 3d. Found conditions poor, ordered men taken out of mine.

Aug. 20th. Found still idle.

Sept. 11. Found conditions fair.

Oden Valley.

Located two miles from Conesville, O., on a branch of the Pan Handle R. R. Operated by the Oden Valley Coal Co., Coshocton, O. G. W. Cassingham, Coshocton, O., Supt.; C. W. Scott, Conesville, O., mins boss. Drift to No. 6 seam, $3\frac{1}{2}$ ft. thick; furnace ventilation; machine mining; mule haulage. Visited May 11th, found mine idle and remained so the year.

Franklin No. 3.

Located at Tyndall, O., on Pan Handle R. R. Operated by Columbus Coal & Mining Co., Coshocton, O. R. U. Barnes, Supt. and J. S. Kitchen, mine boss, both of Coshocton, O. Drift to No. 6 seam, 3 ft. thick; furnace ventilation; pick mining. Mine suspended since February.

Franklin No. 4.

Same as No. 3. Visited March 31st, found it idle and remained so the year.

MORGAN COUNTY.

Tropic.

Visited in company with J. C. Davies on August 22d and 24th on a call from miners, a detailed report will be made by Inspector Grogan in whose District mine is located.

FIFTH DISTRICT

J. A. COLLINS, INSPECTOR.
BELLE VALLEY, OHIO.

COMPOSED OF GUERNSEY, NOBLE, MONROE AND WASHINGTON COUNTIES.

(657)

HON. J. M. ROAN, *Chief Deputy and Safter Commissioner, Columbus, Ohio.*

DEAR SIR:—I herewith submit my annual official report of the Fifth Mining District of Ohio for the year beginning January 1st, 1914, and ending December 31st, 1914, which consists of Guernsey, Noble, Monroe and Washington counties. Sixty-one (61) mines were visited and 159 examinations made; 27 visits were made to oil and gas wells, requiring 43 days, and witnessed sealing of 19 oil wells.

Three sets of weigh scales tested, one hopper and two platforms. One set was found weighing correct and one incorrect.

I regret to report nine deaths during the year. Six of which were caused by falls of slate at working places with the exception of Charles Maruzik killed at the Black Top Mine while taking down slate along main entry, which fell causing instant death. Two were caused by falls of coal and one by motor. Four of the accidents occurred in Black Top Mine of the Morris Coal Co.

While we regret to report this number of accidents it is gratifying to report that only six accidents occurred during this period in District No. 5; the mines of which were suspended from April 1st to July 15th (on account of wage agreement) making conditions more hazardous and no accidents occurred while putting the mines in condition.

W. C. Basford, American, employed at Black Top mine was fatally injured by fall of slate October 15th, 1913. Died January 8th, 1914.

Andy Kreit, Slavish, Forsythe mine, injured by fall of slate November 22d, 1913. Died January 13th, 1914.

Steve Tomosco, Slavish, Walhonding mine No. 2, injured by fall of slate December 20th, 1913. Died February 16th, 1914.

Carlos C. Freal, American, Black Top mine. Killed by fall of coal March 25th, 1914.

Charles Maruzik, Slavish, Black Top mine. Killed by fall of slate April 30th, 1914.

Orville Touvelle, American, Black Top mine. Killed by fall of slate October 1st, 1914.

Harley Spencer, American, Minnehaha mine. Killed by motor October 9th, 1914.

William M. Rainey, American, machine man, Harryette mine. Killed by fall of coal October 26th, 1914.

John Simco, Slavish, Murray Hill No. 2. Killed by fall of slate, December 23d, 1914.

Improvements.

Four ventilating fans were installed; 4 second openings made; 1 set of new steps built in manway, and lead cable for electric wire in same manway; 22 sets of platform weigh scales were installed in the mines, the coal being weighed in the mine cars; 1 coal crusher installed at the Buffalo mine; 4 small mines installed machinery necessary for cutting the coal with electric machines. Three new mines has been opened, one abandoned and two remained suspended and full of water.

A great many more improvements has been made in the district in the way of safety to employes, namely, refuge-holes, safety provided at shaft bottoms where employes assemble; also the traveling ways in case of emergency have been improved.

Prosecutions.

Fourteen arrests were made in the district during the year for violating Sec. 959 of the Mining Law, relative to going beyond a danger signal, all caused

by the fire bosses. Four at the Caldwell mine, Noble Co.; two found guilty and fined \$25.00 and cost; three at Laura mine, Noble Co.; two found guilty and fined \$25.00 and cost; five at Black Top mine, Guernsey Co., all found guilty and fined \$25.00 and cost.

Owing to the suspension from April 1st to date of settlement of the wage agreement, the mining industry has been very dull, some of the mines working only about two days per week, while a few of the mines worked fairly good. A number of miners had no employment whatever.

One mine in Noble County, operated by the Middle States Coal Co., Chicago, has been suspended since April 1st, being in the hands of a receiver.

In conclusion I wish to say that my relations with the operators, mine managements and miners and oil operators have been very pleasant and wish to extend thanks for many courtesies received in the performance of my duties as prescribed by law.

We also desire to express to you and your assistant, J. C. Davies, our sincere appreciation for personal and official advice given in regard to the protection of mine property and the safety of employes in and around the mines, realizing that your motto has always been "Safety First." We also desire to express our appreciation for the courtesies received from the office force during the year.

Very respectfully,

J. A. COLLINS,

Inspector Fifth District, Belle Valley, O.

December 31st, 1914.

GUERNSEY COUNTY.

NOTE:—The following eight mines are operated by the Cambridge Collieries Co., Cleveland, Ohio, with branch office in Cambridge, O. Harry Cameron, general supt., assisted by W. M. Bornesberger, Cambridge, O.

Banner.

Shaft 56 ft. deep penetrating No. 7 seam, 5½ feet thick. Located near Pleasant City, O., on the B. & O. R. R. O. Hipsley, Supt. and Mine Boss, Pleasant City, O. Fan ventilation; electrically equipped; motor and mule haulage; and 25 miners and 28 others employed.

March 10th. Examined all working places, haulways and traveling ways; same in good condition. Also found the Booster-fan which provides ventilation from rock entry which was (being driven single entry by agreement) not constructed in a proper manner. Trolley was not fully guarded and manway not available for ingress and egress on account of ice in the same. Ordered to construct Booster-fan in Rock entry as requested, by building air-tight brattice.

Construct Trolley wire as required by law.

Make Man-way safe and available for ingress and egress.

May 22d. Only Rock entry working, with 15 men working three shifts. Keg of blasting powder was found in rock entry exposed, and shots being fired with electricity. Ordered explosives kept out of the Rock entry and shots fired by electric battery as agreed upon.

June 1st. Visited for the purpose of requesting fire boss employed.

The following orders were given: Fire Boss must be employed and perform such duties as required by Sections 925 and 955 of the mining laws.

July 22d. Examination of Rock entry was made and found same in good condition. Former orders of May 22d and June 1st complied with; 14 men employed.

Sept. 25th. Examination made of rock entry; ventilation insufficient at face of rock entry; 16 men employed, and requested same provided.

Nov. 25th. Jointly inspected with L. D. Devore, Dist. Inspector 10, and found in good condition. Only the rock entry being worked with one pillar to furnish boiler coal; condition was good. The rock entry had been driven 1600 feet. Also made examination of the airshaft north of main shaft and at the head of the rock entry, which will be used for ventilation and ingress and egress, and found in first-class condition in every respect. Working three shifts, 18 men in all. H. S. Gander, Supt., Pleasant City, O. The shaft is 8 x 13 and was down 25 feet. No orders issued.

Blue Bell.

Located on the B. and O. R. R., near Blue Belle, O. Shaft penetrating No. 7 seam 85 feet deep. Coal 6 feet. Fan ventilation, equipped with electricity; motor and mule haulage. John M. Burt, Supt., Opperman, O., and M. L. Kackley, Mine Boss, Pleasant City, O. Employs 152 miners and 82 others.

Feb. 12th and 13th. This examination consisted of five days and a complete examination was made, finding working places in good condition, but refuge holes were somewhat obstructed. Two mining machines found operating with broken shields. Entries and room being driven past breakthrough with the breakthrough not through.

Ordered all refuge holes as required by law; Mining machines shielded at all times; Breakthroughs must be made as required by law and miners must keep their powder in boxes.

July 23d and 24th. One hundred and forty-seven miners and 91 day men employed. On the 23d, ventilation was very poor. On main north no reading could be taken while on all other entries the air was sluggish and very smoky. Some of the places were filled with water and falls of slate, due to the idleness April 1st. Refuge holes not made as required by law. Electric wires in the man-way near the shaft bottom not guarded, endangering employes.

Orders given: Make and keep refuge holes, and construct wire in man-way as required by law.

Dec. 8th. Inspected in company with L. D. Devore, Dist. Inspt. 10. 178 miners and 95 day men employed. Found refuge holes not fully made as required; ventilation on main north insufficient and standing gas at face of entry. Employes burning Carbid unlawfully. Breakthrough between rooms not made as required; stretchers and blankets kept on the outside. Orders given: Make refuge holes and keep same free from obstruction; provide and maintain the required amount of ventilation at face of main north entries and remove standing gas. Employes must burn Carbide lawfully, otherwise the use of same will not be permitted. Breakthroughs must be made and stretchers and blankets kept inside of the mine as required by law.

Buffalo.

Located on the Pennsylvania R. R. near Buffalo, O., shaft penetrating No. 7 seam 87 feet deep, coal 6 feet. Fan ventilation, equipped with electricity; motor and mule haulage. O. C. Johnson, Supt., and Otis Moss, Mine boss, Buffalo, O.

Jan. 7th. Examination resulted in finding 180 miners and 117 day men employed; mine found in good condition with the exception of two places where the trolley wire was not guarded; requested this given attention. The mine management has provided a place where their employes may hold meetings, located near the shaft bottom, which is in good and safe condition, well lighted with electricity and ventilated, also provided with escapment and has a seating capacity of 250 persons.

July 31st. Joint examination was made with Hugh Gaffney, Dist. Inspector No. 9, and found in fair condition; 188 miners and 109 day men employed. Only part of the mine was examined on this date.

Aug. 6th. Examination was completed and found some of the refuge holes obstructed; employes riding in mule trips not having signed mutual agreement. Orders were given to make refuge holes and keep same free from obstruction and employes requested to sign mutual agreement permitting them to ride in mule trips.

Dec. 9th. Joint examination made with L. D. Devore, Dist. No. 10. Dust was found in the in-let airway; also on main entries which was considered dangerous. This was discharged by the fan into the mine, from the outside. Orders given to remove dust out of the mine and roadways sprayed. Stretchers and blankets must be kept in the mine as required by law. Recommended ventilation reversed and overcast built which would eliminate a door on the main entry.

Hartford.

Located on the B. & O. R. R., Buffalo, O. Shaft penetrating No. 7 seam, 75 feet deep, coal 6 ft. Fan ventilation, double entry system. Equipped with electricity, motor, rope and mule haulage. Thomas Williams, Supt., and Vern Graves mine boss, both of Buffalo, O. 180 miners and eighty day men.

Feb. 10th and 11th. Examination consisted of two days. Working places in good condition; ventilation on the south part of the mine was very bad; all working places and haulage ways smoky at all times. Some of the miners were not keeping their powder in boxes, and having two of them together. The escapement ways were unavailable on account of heavy falls of slate and standing

water; there were also a number of turns which would make it impossible for any one to find their way out unless very familiar with the mine, the distance being long. The brattices west of 21 split were in very bad condition, causing heavy leakages; the brattices east of 21 split were in good condition and ventilation good east of the split. Orders given to provide and maintain the required amount of ventilation at face of workings as required by law, Sec. 922; miners must keep their powder in boxes and no two boxes kept closer together than 25 feet; make all escapement ways safe and available and place directing boards at all required places marked and indicating "This way out." Construct brattices between permanent inlet and outlet air-ways as required by Sec. 926.

Sept. 14th. Partial examination made. Found one broken shield on mining machine. Ordered same repaired at once.

Sept. 17th. Examination of the 14th completed and mine in good condition; also found orders issued on previous visit complied with. No orders issued.

Dec. 31st. This examination was made jointly with L. D. Devore, Inspector Dist. No. 10. Found in very good condition except troubled some with water which was unavoidable. Four men working in pillars on the north. Requested stretchers and blankets kept in the mine as required by law.

Ideal.

Located on the Penna. R. R. near Byesville, Ohio. Shaft penetrating No. 7 seam, 70 feet deep; coal 5 feet. Ventilation by fan, double entry system; equipped with electricity; motor and mule haulage. D. B. Morse, Supt., Byesville, O.; David Sharitt, Mine Boss, Cambridge, and Carb McConaway, Mine Boss, Byesville, O. McConaway has charge of north part and Sharitt has charge of the south part of the mine; 220 miners and 129 day men.

Jan. 6th and 8th. Found some of the miners not being supplied with timbers, and some of the miners not posting working places properly. Ice was found on the steps in the manway. Orders were given that miners must be supplied with timbers at all times, miners must post working places and make same safe. Ice must be kept out of man-way in order to be safe and available at all times for ingress and egress.

Sept. 4th and 5th. Examination consisted of two days and found the motor road in very bad condition in the way of mud and slate piled along the entries, also the refuge holes not in compliance with the law. Some not made and some obstructed, and not whitewashed; ventilation on the south inlet not sufficient. The west entries on the south were also very smoky, the readings being very low. Some of the miners without powder boxes; working faces in good condition; loaders posting good. Orders given that entries must be cleaned up and made safe; refuge holes made and kept free from obstruction; provide and maintain the required amount of ventilation at the south inlet, also at face of workings; miners must have powder boxes in which to keep their powder, to be complied with in 15 days.

NOTE:—Two sets of weigh scales have been installed in the mine, the coal being weighed in the mine cars.

Dec. 22d and 23d. Examination consisted of two days and all working places, haulways and traveling ways examined. Found a number of improvements ordered on previous visit complied with; some violations still found, such as refuge holes not made complete; some of the miners not having powder boxes, and some not keeping powder in their powder boxes; trolley wire not fully guarded; ice in man-way. No. 7, 8, 9, 10, 11, 12, 19 and 20 southeast entries practically all pillar work; also all of the north part of the mine is pillar work and in good condition; some water found on the north part of the mine. Orders given to

make refuge holes complete; miners must secure powder boxes and powder must be kept in same; trolley wire must be guarded at all required places; ice must be kept out of man-ways and kept safe at all times for ingress and egress; stretchers and blankets must be kept inside of the mine. To be complied with in 15 days.

Trail Run No. 1.

Located on the Penn. R. R., Trail Run, O. Shaft penetrating No. 7 seam, 72 feet deep; coal 5 feet thick; ventilated with fan; double entry system; equipped with electricity; rope, motor and mule haulage. Frank Blackburn, Supt., and George Slay, Mine Boss, both of Robins, O.

Jan. 24th. 124 miners and 76 others employed. Found a few violations. The ventilation at the inlet not sufficient; refuge holes not made as required by law. Some loose slate was found on the entries; part of the mine troubled with water. Hole was being drilled for pumping station and on account of the drilling being delayed the water accumulated. The mine management has pump installed and pipe line in readiness. Orders given to provide and maintain the required amount of ventilation at the inlet.

Aug. 28th and 29th. Refuge holes not made complete, and trolley wire not fully guarded. Also found improvements in the way of machinery: one new boiler, one large pump inside, two sets Fairbanks scales inside of the mine, the coal being weighed in the mine cars. Orders given to make refuge holes as required by law, to be complied with in 15 days, and construct trolley wire as required by law within three days.

Dec. 15th. This examination was made jointly with L. D. Devore, District Inspector No. 10. Found a few violations: ventilation at inlet not sufficient, being 2,800 feet short; also ventilation on 13 and 14 west entries sluggish with three open breakthroughs; two rooms found working ahead of air. Stopped same and men removed. Orders given to provide and maintain the required amount of air at the inlet; also at faces of all working places. Breakthroughs between entries must be closed except the one at face. Make breakthroughs between rooms as provided by law; stretchers and blankets must be kept in the mine. Work had begun cleaning air-way which will be the means of improving the ventilation, also improve the traveling-way.

Trail Run No. 2.

Located on the Penna. R. R., near Trail Run, O. Shaft penetrating No. 7 seam, coal 5 feet thick. Fan ventilation, double entry system; equipped with electricity; motor and mule haulage. Frank Blackburn, Supt., and J. W. Okes, Mine Boss, Robins, O. 155 miners and 100 day men employed.

Jan. 26th and 27th. Ordered all fine coal and dust taken out of the mine; provide and maintain the required amount of ventilation; mining machines must be kept shielded at all times; breakthroughs between rooms as required by the law and make escapement way safe and available at all times.

Sept. 22d, 23d, 24th. T. A. Blount, Mine Boss, Byesville, O. This examination was of three days and all working places, haulways and travelingways examined and the following orders given: Provide and maintain the required amount of ventilation at the inlet, also at face of workings; construct brattices and trap doors; trolley wires must be guarded at required places; refuge holes made as required by law, and kept free from obstruction; mining machines must be kept shielded at all times, and machine men must not run machines with broken shields; miners must have boxes for their powder, and employes must sign mutual agreement to permit them to ride in motor trips. To be complied with in 15 days.

Walhonding No. 2.

Feb. 4th. Only part of the mine examined. 160 miners and 122 others employed. Found ventilation on No. 3 and 4 west entries on the south obstructed, caused by heavy falls of slate, making the escapement way almost unpassable, and machine wires not constructed as required, and ordered same remedied at once.

Feb. 18th. Investigated fatal accident resulting in the death of Steve Tomasco.

Feb. 19th. This visit was made to complete the examination of February 4th. Found the top very bad and faulty but good judgment was being exercised by both the company and miner in timbering, realizing the necessity for same. Former orders complied with which increased the ventilation on No. 3 and 4 west entries (on the south) from 9,860 cubic feet to 15,400 cubic feet. No orders issued.

Sept. 1st and 2d. Examination consisted of two days. Top is faulty but well timbered; trolley wire not guarded at the pump on No. 4 west entry, the pumper being required to stand under the trolley wire when starting the pump or repairing the same. Broken shields found on 4 mining machines; the escapement way on No. 5, north entry, not available as required; also north entry from air-shaft being obstructed with heavy falls of slate. Orders given to remedy same within 30 days.

Dec. 17th. This examination in company with L. D. Devore, District Inspector No. 10 Dist., and former orders complied with, and found mine in good condition considering the very bad top, which is well taken care of by the miners and management. No orders issued except to provide stretchers and blankets inside the mine.

The following two mines are owned and operated by The Morris Coal Company, Cleveland, O., Branch Office Cambridge, O., J. S. Hughes, Supt., Cambridge, O.:

Black Top.

Located on the B. & O. Ry., near Lore City, O. Shaft penetrating No. 7 seam, 100 feet deep, coal 4 to 5 feet thick; fan ventilation, double entry system; electrically equipped, voltage 250; machine under-cutting; motor and mule haulage. Walter Sneddon, Mine Boss, Lore City, O.

Jan. 12th. Investigated accident which occurred October 15th, 1913, resulting in death, January 8th, 1914. Also made examination of part of the mine and found improvements which were demanded on my previous visit. Miners taking good care of working places in way of timbering, but breakthroughs not made as required by law. Also found some fine coal stored along the entry. Trolley wire not fully guarded; escapement way in good condition. Orders given to make breakthroughs as required by Sec. 926; remove all fine coal out of the mine and guard trolley wire.

Jan. 22d and 23d. This visit was to complete the examination, January 12th, and consisted of two days or part of two days; found some loose slate on the entries; also found some of the branch travelingways obstructed with falls of slate, the main travelingway being good; employees burning carbide unlawfully by depositing refuse carbide in the mine. Orders given to take all loose slate down along entries or otherwise made safe; continue the cleaning of airways, the same being the escapement-way in emergency; prohibit the use of carbide unless the same is used as required, Sec. 974-1.

Feb. 14th. This visit was made by request of Supt. J. S. Hughes, on account of standing gas in No. 11 and 12, east entries, which were abandoned for 18

months on account of a squeeze on the same. No. 7 and 8 north, off 13 east entry breaking into No. 1 and 2, south off 12 east. No. 8 north breaking into standing gas; No. 8 entry being ahead of No. 7 entry and it was necessary to drive No. 7 entry to provide ventilation for 11 and 12 east entries; ventilation being weak on No. 7 and 8 north, it was necessary to make the following orders: Provide and maintain the required amount of ventilation at face of No. 7 and 8 north entries off 13 east entry; safety man be employed at all times to examine the 11 and 12 east entries and if any danger was discovered he must warn the miners in this part of the mine and cause them to retire from the mine; also all miners in this part of the mine must use Safety Lamps; when the gas on 11 and 12 east entries has been removed, and this part of the mine is safe, then the safety man may be discharged.

April 9th. Investigated accident which occurred March 25th, 1914, resulting in death of Clifford Friel on April 6th.

May 1st. Investigated fatal accident of Charles Maruzik, who was instantly killed April 30, 1914.

Aug. 13th and 14th. On first day of examination the ventilation at the inlet was not what it should be; refuge holes obstructed, loose slate on some of the entries, and employes burning Carbide unlawfully; escapement way on No. 9 east entry not available; some of the miners not posting properly; fly-wheels and belts not guarded. Orders given to provide and maintain the required amount of ventilation at the inlet; refuge holes must be kept free from obstruction; all loose slate along entries must be taken down or otherwise made safe; employes must burn carbide as required by law; escapement way on No. 9 east entry must be safe and available; miners must post working places properly; fly-wheels and belts must be guarded within 14 days; the refuge holes must be made to comply with the law within 14 days. Improvements: One 42-inch fan has been installed, driven by 75 H. P. motor, direct connected; this is in connection with the steam fan—either can be run; one new generator, 150 K. W. and two new boilers.

Oct. 2d. Investigated fatal accident of Orville Touvelle, American, aged 16, which occurred October 1, 1914.

Dec. 4th. Inspected jointly with L. D. Devore, Inspector Dist. No. 10, finding a few violations: On 23 and 24 west entries a squeeze was on; dangerous slate was found; electric wires not constructed as required by law; standing water in escapement way; stretchers and blankets not kept in the mine. Orders given to heat the air at the inlet; take down or make safe all loose slate; construct electric wires as required by law; water must be taken out of escapement way and kept available at all times; stretchers and blankets must be kept in the mine; all fine coal and dust must be kept out of the mine.

Cleveland.

Located on the B. & O. Ry., Senecaville, O. Shaft 200 feet deep, penetrating No. 7 seam, coal $4\frac{1}{2}$ to 6 feet; fan ventilation, double entry system; equipped with electricity, 250 volts; machine under-cutting; motor and mule haulage.

Nov. 10th. Mine in fair condition; 172 miners and 76 others employed. Found refuge holes not in compliance with the law; trolley wire and machine wire not constructed as required; breakthroughs not made as required with the 40 and 80 foot system in the rooms; fly-wheels and belts not guarded. Orders given to make and keep refuge holes as required by law; trolley wire and machine wires must be constructed as required by law; breakthroughs in rooms must be made as required by the mining law; fly-wheels and belts must be guarded. To be complied with in 10 ten days.

Dec. 18th. Inspected in company with L. D. Devore, Inspt. Dist. No. 10; found the manway obstructed with ice, making it impossible for ingress or egress; the air shaft also was examined and found in good condition; no further examination was made, and the men were all ordered out of the mine and not to return until man-way was made available for ingress and egress.

Dec. 30th. Revisited, accompanied by L. D. Devore, District Inspector No. 10, and finding 163 miners and 85 others employed, also finding mine in fair condition, with a few violations; the manway was free from ice and some other improvements in and around the man-way; stretchers and blankets being kept on the outside. Orders given to keep stretchers and blankets in the mine as required by law.

The following four mines are owned and operated by the National Coal Company, Cleveland, O., with branch office in Cambridge, O. Forest Firestone, General Supt., assisted by G. E. Hall:

Little Kate No. 1.

Located on the Penna. R. R., near Byesville, O. Shaft 92 feet deep, penetrating No. 7 seam, which is $5\frac{1}{2}$ to 6 feet thick; fan ventilation; electrically equipped, voltage 250; machine under-cutting; third rail motor haulage, and mules. Thomas Brandbury, Supt., and Joseph Wasko, Mine Boss, both of Byesville, O.

Nov. 24th. Inspected jointly with L. D. Devore, Inspector Dist. No. 10, and all working places, haul-ways and traveling-ways examined. Found miners well supplied with timber; the use of carbide was wonderfully abused, employes throwing their refuse in the mine; the third rail of motor system was badly exposed, the guards being torn off, causing danger to employes; refuge holes not made according to law and some of them were obstructed and not whitewashed; on No. 9, 10 and 15 west entries, 36 men working pillars, the same in good condition; ventilation good in the pillar work; no reading was taken on account of broken air-ways; ventilation sluggish on No. 1 and 2 east entries. This part of the mine had the largest number of men working; belt in power house not fully guarded. Orders given that carbide must be used as required by law, otherwise the use of same would be prohibited in the mine; third rail must be kept guarded at all times on motor system; refuge holes must be made and kept as required by law; ventilation on No. 1 and 2 east entries, must be increased to the required amount; belts in power house must be fully guarded and blankets and stretchers must be kept in the mine as required. Orders to be complied with in 15 days.

Little Kate No. 2.

Located on the B. & O. R. R., near Blue Belle, O. Slope 200 feet, penetrating No. 7 seam, coal 5 and 6 feet thick; fan ventilation; equipped with electricity, 250 volts, the same being generated at the Minnehaha mine, which is operated by the same company; machine under-cutting; motor haulage; the ventilating fan operated by motor, no steam device used at this mine whatever. C. W. Shump, Supt., Cambridge, O., and William Peterson, Mine Boss, Byesville, O.

March 5th and 6th. 185 miners and 88 others employed; working faces in good condition; brattices between the permanent inlet and outlet air-ways not constructed as the law required, which was ordered on previous visit; refuge holes were found obstructed and not made every 60 feet; ventilation at the inlet not sufficient; the Little Kate Mine No. 2 had broken into Minnehaha Mine in two places, and the stoppings were made of boards and slate and not air-tight; at one of the openings was placed a trap door which was covered with brattice cloth and the boards with the brattice cloth being very dry, made a fire trap; the leakage

in the air showed that the Minnehaha mine was pulling the air from the Little Kate No. 2 mine and any destruction of the stoppings between the two mines (which was very common) would be the means of short-cutting the air from Little Kate Mine No. 2, and would endanger the lives of employes in the Little Kate Mine No. 2. Orders given to provide and maintain the required amount of ventilation at the inlet as required by law; construct brattices between permanent inlet and outlet air-ways; make and keep refuge holes free from obstruction and construct brattices and door between Little Kate Mine No. 2 and Minnehaha Mine, with brick or cement and use a door constructed of iron.

Aug. 7th and 8th. Ventilation at the inlet was not sufficient; some of the miners were not posting properly and not keeping their powder in boxes; employes were found burning carbide unlawfully; one machine operating with broken shield and refuge holes not made as required by law. Orders given to provide and maintain the required amount of ventilation; miners must post their working places properly and keep their powder in boxes; employes must burn carbide as required by law; mining machines must be kept shielded, and refuge holes made and kept free from obstruction.

Oct. 12th. Tested the weigh scales; platform scales have been installed inside of the mine; were found weighing correct.

Dec. 29th. Inspected jointly with L. D. Devore, of Dist. No. 10. Ventilation at inlet not sufficient; refuge holes not in compliance with the law; mining machines not properly shielded; fine coal found stored along entries; trap-door between No. 5 and 6 west entries in bad condition. Orders given to provide and maintain the required amount of ventilation at the inlet. Refuge holes must be made and kept free from obstruction; mining machines must be shielded properly; also pinions on haulage motor must be shielded; fine coal and dust must be kept out of the mine and roadways sprayed; trap-doors must be kept in proper order as required by law; stretchers and blankets must be kept in the mine. Orders to be complied with in 10 days.

Minnehaha.

Located on Penna. R. R., about 5 miles southwest of Byesville, O. Shaft 150 feet, penetrating No. 7 seam, coal 5 to 6 feet thick; fan ventilation, double entry system; equipped with electricity, 250 volts. This plant generates the power for Little Kate Mine No. 2, also for the Harryette mine; machine undercutting; motor haulage. W. W. Tidric, Supt., Byesville, O., assisted with two mine bosses, William Dyre, Byesville, O., and David Clodfelter, Cambridge, O.

March 17th and 19th. 240 miners and 110 others employed; working faces in good condition. Fine coal and dust was found stored along the entries; refuge holes obstructed; trolley wire not shielded properly; some of the trap-doors showing heavy leaks of air; miners violating powder law, some not having powder boxes and others not keeping their powder in boxes. Five powder boxes with powder in them, were found in the last breakthrough between No. 15 and 16 east entries; brattices between permanent inlet and outlet airways not constructed as required by law; empty oil barrels stored in the mine; employes unlawfully riding on motor. Orders were given to have all fine coal and dust taken out of the mine; refuge holes must be made and kept free from obstruction; trolley wire must be shielded at all required places; trap-doors must be built as required; miners must have powder boxes and keep their powder in the same, and no two powder boxes must be closer together than 25 ft.; brattices between permanent inlet and outlet airways must be constructed as required; empty oil barrels must be taken out of the mine and no persons allowed to ride on the motor other than those permitted by law.

Aug. 19th, 20th, 21st. This examination consisted of three days. 210 miners and 118 others employed; some improvements made which were ordered on previous visit; concrete stoppings between permanent inlet and outlet airways, also concrete brattices and steel doors between Little Kate Mine No. 2 and the Minnehaha mine had been complied with; quite an amount of fine coal had been loaded out of the mine which had been placed along the entries, but some violations still existed: fly-wheels and belts not guarded; trolley wire not fully guarded; refuge holes not in compliance, some not made, some obstructed and others not whitewashed; employes burning carbide unlawfully, quite an amount was found placed in powder cans; some of the miners sent out of the mine with the refuse carbide which was found in their working places; some low timbers and bad slate found on some of the entries. Orders given to guard fly-wheels and belts; trolley wire must be guarded at all required places; refuge holes must be made and kept free from obstruction, and whitewashed; employes must burn carbide as required by law; low timbers and dangerous slate must be taken down or made safe otherwise.

Oct. 12th. Investigated fatal accident of Harley Spencer, American, age 18, who was injured October 9, 1914, and died same date.

Dec. 28th. This examination was made jointly with L. D. Devore, Dist. Insp. No. 10. Found improvements made in the way of safety to employes, which was requested on August 21st. Refuge holes not complete; fine coal and dust along entries, mining machines not shielded; on No. 13 east entry some dangerous slate was found; on No. 12 west entry, trap-door in very bad condition, causing heavy leakage of air; stretchers and blankets being kept on the outside of the mine. Orders given to make refuge holes and keep same as required by law; fine coal and dust must be kept out of the mine and roadways made wet; mining machines must be guarded properly and foot-guards placed on haulage motors; all loose slate must be taken down or made safe otherwise; trap-door on No. 12 west entry must be made to comply with the law; stretchers and blankets must be kept in the mine. Orders must be complied with in 15 days.

Harryette.

Located on the Penna. R. R., southwest of Byesville, O. Shaft 56 feet deep, penetrating No. 7 seam, coal 6 feet thick; fan ventilation; equipped in full with electrical devices, the power being generated at the Minnehaha mine; voltage 250; machine under-cutting; motor haulage. Homer Oliver, Supt. and Elward Stallers Mine Boss, both of Byesville, O.

Feb. 26th. 100 miners and 43 others employed; trolley wire not constructed as required by law; refuge holes not made and others obstructed; miners not keeping powder in boxes; employes burning carbide unlawfully. Orders given to construct trolley wire as required by law; make refuge holes and keep same free from obstruction as required; powder must be kept in boxes, and employes must burn carbide as required by law.

Oct. 28th. Investigated fatal accident of William M. Rainey, American, age 33, which occurred October 26, 1914.

Nov. 23d. This examination was made jointly with L. D. Devore, Insp. Dist. No. 10. Working places in good and safe condition; on No. 1 and 2 north, No. 1 south, No. 1 east and No. 1 west off No. 1 south, 16 men working pillar work, the same being in good condition, miners being well supplied with timbers; refuge holes and breakthroughs not made as required by law; one machine was found operating with broken shield, the same was stopped until the repair was made; blankets and stretchers being kept on the outside of the mine. Orders given to make refuge holes and keep same free from obstruction; make breakthroughs as required by law; mining machines must be kept guarded at all times; blankets and

stretchers must be kept in the mine; no fine coal or dust must be stored in the mine; safety gates must be placed around the shaft at the surface landing; refuge holes to be completed in 15 days; safety gates to be placed around shaft in 7 days.

Forsythe.

Located on the B. & O. R. R., near Mineral Siding, O. Operated and owned by The Forsythe Coal Company, Cambridge, O. W. J. Sheehan, Supt., and Alva Alderman, Mine Boss, both of Cambridge, O. Slope 110 feet, penetrating No. 7 seam, coal 5 to 6 feet thick; fan ventilation; electrically equipped, voltage 250; double entry system; machine under-cutting; motor and mule haulage.

Jan. 16th. Investigated accident which occurred November 22, 1913, resulting in the death of Andy Kriet, age 32, Slovisch, January 13, 1914.

Feb. 20th. This visit was made for the purpose of demanding fire boss or fire bosses, the mine being classed with the gaseous mines and having no fire boss. Orders given and posted at the mine: Fire boss or fire bosses must be employed and perform such duties as prescribed in the mining laws, Sec. 925, 955; also Sec. 959 must be complied with; furthermore provide ventilation as required by law.

October 20th, 30th. Miners and others working places in good condition, ventilation good, some of the refuge holes obstructed, broken timbers near the bottom of the slope, some of the miners burning impure oil and was sent out of the mine employes burning carbide unlawfully, some of the miners not keeping their powder in boxes, the traveling-way for drivers and mules near the slope in bad condition on account of mud and water. Orders given to make refuge holes and keep same free from obstruction; replace broken timbers near bottom of the slope; employes must burn pure oil, also carbide must be burned as required by law; miners must keep their powder in boxes; traveling-way for the drivers and mules must be kept in sanitary condition. Orders to be complied with in 15 days. Improvements: Robison, six-foot ventilating fan has been installed, which was giving good results; also one set of hopper weigh scales had been placed in the tippie, the coal being weighed before screening.

VIGO CLAY COMPANY, CAMBRIDGE, O.

Guernsey Clay Mine.

Located on the Penna. R. R. near Byesville, O. Drift penetrating No. 7 seam. Coal and fireclay are being mined, the coal $4\frac{1}{2}$ feet and fire clay 4 feet thick; furnace ventilation; pick mining and mule haulage. Adams Bates, Cambridge, O., has full charge of the mine, the products being used at the mine; manufacturing brick and tile.

Feb. 5th. Examination was made of all workings and traveling ways and same found in good condition; 10 pick miners and 3 day men employed. Orders given that miners must keep powder in boxes as required by law, Sec. 962.

Nicholson Clay Mine.

Nicholson Clay Product Co., Cambridge, O. This company took charge and changed the name to that of the Vigo Clay Co., February 16, 1914. Adam Bates of Cambridge, O., in charge as before.

Oct. 19th. Eleven pick miners and 4 day men employed; ventilation at the inlet not sufficient; also at face of working, the working places being very smoky. Orders given to provide and maintain the required amount of ventilation at the inlet and at face of working places.

Klondyke.

Located on the B. & O. R. R., Klondyke, O. Owned and operated by The Loomis-Moss Coal Company, Akron, O. Harry Moss, Supt., and Charles Moss, Mine Boss, both of Cambridge, O. Slope 165 feet, penetrating No. 7 seam, coal 5 to 6 feet thick; fan ventilation; electrically equipped, voltage 250; machine under-cutting; tail rope and mule haulage.

March 4th. 85 miners and 48 others employed; working places in good condition; the escapement-way was greatly improved which was demanded on previous visit, but not complete; the inlet ventilation was not sufficient; refuge holes somewhat obstructed; ice in the man-way. Orders given to continue to make escapement-way safe and available as demanded on previous visit; provide and maintain the required amount ventilation at the inlet as required by law; make and keep refuge holes and make man-way safe and available at all times.

Oct. 16th. Examination was made while the mine was idle. Working places were examined and found in good condition; examination of No. 13 and 14 east entries, was made in regard to water breaking into No. 2 room on No. 13 east entry, the same being a surface break, causing the flooding of 13 and 14 east entries; dams were built in No. 13 and 14 east entries, also in No. 2 room on 13 east entry. The dams were built in a crown shape with cement and reinforced with timber; water pipes were used in the entries for testing and pumping of the water; examination proved that no body of water was in the above named entries, and they were considered safe under the circumstances.

Murray Hill No. 2.

Owned and operated by The Akron Coal Co., Akron, O. Located on the B. & O. R. R., near Klondyke, O. Slope 100 feet, penetrating No. 7 seam, coal 5 to 5½ feet thick; fan ventilation; electrically equipped, voltage 250; machine under-cutting; motor and mule haulage. William Rigby, Supt., Cambridge, O. C. E. Long, Mine Boss, Kipling, O.

Aug. 18th. Found trolley wire and machine wire not constructed as required; refuge holes not in compliance with the law; employes burning carbide unlawfully, and not posting working places, as they should be. Orders given: Trolley wire must be guarded at all required places; machine wires must be constructed as provided by law; refuge holes must be made and kept as required by law; employes must burn carbide lawfully; miners must post working places proper. Orders to be complied with in 5 days.

Dec. 16th. Examined all workings and traveling ways; 102 miners and 47 others employed; No. 1 and 2 east entries, working all pillar work; No. 3 and 4 west off main, pillar work, and No. 5 east north two men working pillars, 56 men in all working pillars which was in good condition, some with water. Main north, which has been working in fault and called the stone entry, working double shift with eight men in all, is in good and safe condition. One 10-fan motor, Morgan-Gardner type, and one 150 H. P. boiler installed since my last visit but not yet in use. Ordered stretchers and blankets to be kept in the mine.

Dec. 24th. Investigated fatal accident of John Simso, age 22, Slovish, who was injured Dec. 23, 1914 and died same date. This is the first fatal accident reported in this mine.

Puritan.

Located on the Penna. R. R., near Derwent, O. Owned and operated by the Puritan Coal Company, Cambridge, O. W. W. Lucas, Supt., and Wilbert Oliver, Mine Boss, of Cambridge, O. Shaft 110 feet, penetrating No. 7 seam, coal 5½ to

6½ feet thick; fan ventilation, equipped with electricity, 250 volts, motor and mule haulage; machine under-cutting.

July 29th and 30th. Inspected jointly with Hugh Gaffney, Dist. Inspt. No. 9, which required two days. 135 miners and 90 others employed. Improvement found in the way of safety which was requested on previous visit. Found refuge holes not in compliance with the law; trolley wire not constructed fully as required; employes burning carbide unlawfully; some of the miners not keeping their powder in boxes; safety catches not in good condition; fly-wheels and belts not guarded. Orders given to make refuge holes and keep same free from obstruction; construct trolley wire as required by law; employes must burn carbide as required by law; miners must keep their powder in boxes; safety catches must be placed in good condition before any one is permitted to ride on cage; fly-wheels and belts must be guarded. Orders to be complied with in 15 days.

Dec. 3d. Inspected in company with L. D. Devore, Dist. Inspt. No. 10, for the purpose of examining place which had been cut through into Buffalo mine which is operated by The Cambridge Collieries Co., Cleveland, O. The examination resulted in finding No. 2 room on No. 13 north entry cut through into Buffalo mine, which was stopped with one 3x5 timber, driven in the cut and tamped with bug-dust. The bug-dust was removed when it was found that the Puritan mine was drawing the ventilation from Buffalo mine. This room was 24 feet 10 inches wide and the coal 7 feet high. No orders issued at this time, as an examination of the Buffalo mine was to be made. Examination was made of the air shaft and the air ways, and found in a dangerous condition owing to dust having been exhausted into the mine by the ventilating fan. Orders given to remove all dust and spray the entries.

Dec. 10th. Inspected in company with L. D. Devore, Dist. Inspt. No. 10, and finding same as follows: 140 miners and 87 others employed. Orders issued on July 30 complied with, and mine found in fair condition. No. 5 room on 14, north entry had been cut through into Buffalo mine, this being part of the one reported December 3d. Orders given to steam and spray the inlet airway; blankets and stretchers must be kept in the mine; no orders issued in regard to breaking into the Buffalo mine.

Pigeon-Gap.

Operated by The Henry Coal and Coke Co., Zanesville, O. Located on the Penna. R. R., near Cambridge, O. Shaft 138 feet, penetrating No. 6 seam, coal 4 feet thick; fan ventilation; equipped with electricity, 250 volts; machine under-cutting; motor haulage.

March 18th. Mine had been idle for some time; also found a new company operating, or at least getting ready to operate, the company having leased the mine. David Steel, Cambridge, O., having full charge, employing 12 day men. On December 2d, orders were given for improvements to be made, in the way of safety to employes, and finding the same not complied with, it was necessary to repeat the order. Orders given to make refuge holes and construct brattices between permanent inlet and outlet airways as required by law.

April 18th. David Steele, Supt., and William Jenkins, Mine Boss, of Cambridge, O.; 38 miners and 17 others employed; orders issued on previous visit not complied with; furthermore additional violations were found, namely: electric wires not constructed as required by law; breakthroughs between rooms not made as required; on No. 4 east entry No. 7, 8 and 9 rooms, no ventilation; fire boss not doing duty in way of not leaving his initials along with his dates; also not dating the blackboard on the outside of the mine. Orders given to make refuge holes; construct brattices and electric wires as required by law; provide and maintain ventilation at face of No. 7, 8 and 9 rooms on No. 4 east entry, and

remove obstruction out of the last break between No. 1 and No. 2 north entries; fire boss must leave his initials, along with his dates; also his date on black-board on the outside, as required by Sec. 955.

Nov. 16th. This visit was made by request of J. M. Roan, Chief Deputy and Safety Com., in regard to examination of the mine made by Hugh Gaffney, Dist. Insp. No. 9, on July 28, 1914, and finding mine not working the mine management was also absent and was compelled to go to the Co's office in Zanesville, O., and they were informed that the orders issued by Gaffney had not been complied with.

Elm Tree.

Located on the National pike $4\frac{1}{2}$ miles east of Cambridge, O. Operated by Tobin, Duke and Caygill, Cambridge, O. Slope 57 ft. penetrating No. 7 seam, coal 5 to $5\frac{1}{2}$ ft. thick. F. W. Tobin, Supt. and George Duke, mine boss, both of Cambridge, O.

May 23d. Two miners and one day man employed. Found air shaft completed, ventilation not sufficient, escapement way unavailable. Orders given to provide and maintain the required amount of air and make escapement way safe and available.

Oct. 23d. The Economic Coal Co., Cambridge, O., in charge on this date. John Ray, Supt.; F. W. Tobin, mine boss, both of Cambridge, O. Four miners and 4 others employed. Some improvements have been installed, namely, ventilating fan driven by steam, located outside; one high speed engine and generator, and one mining machine, Jeffrey type, voltage 250. Hoisting engine operating without any break; electric wires not constructed properly. In air shaft which is the escapement way, wires being exposed to persons coming in contact with same. Fly wheel and belt not guarded. Orders given that hoisting engine must have break attached at once; electric wires must be constructed as required by law and made safe in air shaft for persons traveling. Company changed hands as above stated in Oct. 1914.

Midland.

Located southeast of Cambridge, O. Owned and operated by McLaughlin & Downey, Byesville, O. Drift penetrating No. 7 seam, coal $5\frac{1}{2}$ ft. thick; natural ventilation; machine undercutting.

March 16th. Mine idle. Electric power had been installed, which was furnished by The New Midland Power and Traction Co., Cambridge, O. Voltage at power house was 2300 volts, but transformer at the mine reduced the voltage to 250 volts in the mine. One Jeffrey undercutting machine in use and conditions good. Two miners employed.

Aug. 17th. In good condition. A switch being laid from the New Midland Power and Traction R. R. and when completed will be the means of employment in this mine. Two miners employed. No orders issued.

Dec. 11th. Found in good and safe condition with 4 miners employed. A new power house, blacksmith shop and mule stable have been built of tile. Also railroad switch had been completed and railroad cars being loaded in connection with wagon trade. A ventilating furnace will be installed in the near future. No orders given.

Loyd.

Located $2\frac{1}{2}$ miles southeast of Cambridge, O. Owned and operated by John Loyd, Cambridge, O. A. Todd, manager, Cambridge, O., R. F. D. No. 7. Drift, No. 7 seam, coal 5 ft. thick; pick mining.

Sept. 3d. Mine idle; ventilation very poor; mine in bad condition. Previous orders given to make second opening and traveling way safe and available were not complied with. Ordered second opening made and traveling way safe and

available as required by law. Provide and maintain the required amount of ventilation. Permit no mining until orders were complied with.

Dec. 11th. Mine was found in an improved condition in the matter of safety to employes. Requested miners to keep powder in boxes as required by law.

Sugar-Tree.

Owned and operated by Anson Frame, Byesville, O. Located 3 miles west of Byesville, O.

Aug. 21st. Made an examination of the outside and found the mine equipped with machinery consisting of one boiler, one 35 H. P. Climax engine, one generator, General Electric make, 25 K. W. All in good condition with one Jeffrey undercutting machine. All in good condition except fly wheel and belt not guarded. Two miners employed. Orders given to guard fly-wheel and belt.

Ohio No. 1.

Located on the Penna. R. R. near Cambridge, O. Owned by The Middle States Coal Co., Chicago, Ill. Operated by Joseph Alloway, Cambridge, O. Joseph Alloway, Supt. and mine boss. Drift opening into No. 7 seam, coal 6 ft. thick; furnace ventilation; pick mining; 3 miners and 1 day man employed.

Feb. 7th. In good condition, work consisting of all pillar work.

Oct. 17th. In good condition for pillar work.

Buris and Weisenstine.

Owned and operated by Buris & Weisenstine, Cambridge, O. Located 3 miles east of Cambridge on the National pike. Drift into No. 7 seam, coal 5 ft. thick; natural ventilation; pick mining. J. E. Buris, Supt.; J. C. Weisenstine, mine boss, both of Cambridge, O.

Jan. 18th. Eleven miners and 2 day men employed. Found miners forking their coal and storing the fine coal in the mine, which had been the custom for a long time. Orders were given to load all fine coal out of the mine as required by law, Sec. 956. Construct trap door on main East as per directions Dec. 3d, 1913.

Nov. 6th. Ventilation insufficient at inlet and miners storing fine coal in the mine and burning carbide unlawfully; break-throughs not made as required by law on No. 2 west entry; No. 1 room was 127 feet past break and miners were sent out of the mine; gave orders to provide and maintain the required amount of ventilation; load all fine coal out of the mine; break-throughs must be made as required by law; powder kept in boxes, and carbide must be burned as provided by law.]

McManaway.

Operated by Decker & Turnbaugh, Cambridge, O. Located 2½ miles south of Cambridge, O. Drift into No. 7 seam of coal, 5 ft. J. M. Decker, Manager, Cambridge, O.

Feb. 21st. Two miners and 1 day man employed; working places in good condition, however the escapement way was unavailable on account of standing water and heavy falls of slate; also no ventilation; orders given to make escapement way safe and available as required and provide and maintain the required amount of ventilation.

Lether-Wood.

Owned by T. E. Alexander, Cambridge, O. Located on the B. & O. R. R., near Cambridge, O. Operated by M. J. Costello, Cambridge, O., R. F. D. 8.

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Feb. 27th. Two men working pick-work for wagon trade; escapement way shut off by standing water, and no ventilation; order given to make escapement way safe and available; also to provide ventilation.

Ringer.

Owned by Thomas Ringer, Cambridge, O. Operated by W. T. Shuttice, Cambridge, O. Drift of coal $3\frac{1}{2}$ feet. Located south of Cambridge, O.

April 28th. Mine idle and in very bad condition; timbers broken and rotten at mouth of mine; break-throughs without any stoppings; no ventilation and no escapement way; orders given to make opening safe by retimbering; stoppings must be made in breaks as required by law; provide ventilation as required, and make second opening and traveling way safe and available.

Spaid and Brown.

Located near Cassell Station, on the B. & O. R. R. Owned by Spaid & Brown, Cambridge, O. Drift opening.

April 28th. Mine idle and provided with but one opening. Conditions would not permit of a complete examination as water was standing in the entries. Was informed by Mr. Spaid that the south entry was driven south 600 feet with no ventilation or escapement way. Orders given to Mr. Spaid to permit no mining at face of working until second opening was made.

Briar Hill.

Located south of Cambridge, O. Owned and operated by W. L. Nicholson, Cambridge, O. Drift penetrating No. 7 seam of coal, $5\frac{1}{2}$ feet thick.

April 29th. Mine idle and the opening on the east side of the hill was being abandoned. A new opening will be made on the west side of the hill.

Mineral Point.

Nov. 12th. This mine penetrates the Briar Hill and is owned and operated as Briar Hill by W. L. Nicholson, Cambridge, O.; Allison Lee, mine boss, Cambridge, O. Four miners and one day man employed. This mine was producing coal for wagon trade September 1st, 1914, and is in good condition in the way of safety. The management is driving an entry to the air shaft, which is but a short distance, and when completed will be the means of increasing ventilation; while the same is good, it will also be the means of escapement, two openings being available. Miners were found without powder boxes; were ordered to procure same.

Stoner.

Owned by Thomas Laughman, Cambridge, O. Drift of No. 7 seam of coal, $5\frac{1}{2}$ feet. Located south of Cambridge.

May 16th. Mine idle; found but one opening and no ventilation in the mine. Orders given to make second opening and to do no mining until orders were complied with.

Reitler.

Located south of Cambridge, O. Owned and operated by Reitler Brothers, Cambridge, O. Slope, 156 feet, penetrating No. 7 seam of coal, $5\frac{1}{2}$ feet thick; fan ventilation; equipped with electricity of 250 volts; machine undercutting; mule haulage. Chris Reitler, Supt. and Mine Boss, Cambridge, O.

Aug. 27th. Examination resulted in finding the mine, which is operated for wagon trade, equipped with machinery which consisted of one hoisting engine,

one high speed engine and generator, one fan engine, one steam pump and one boiler; also one undercutting machine of the Jeffrey type; 2 miners and 20 others employed on date while the mine was not working; no refuge holes in the slope; second opening not available and safe. Orders were given to make refuge holes in the slope as required by law; make second opening safe and available; construct electric wires as required by law; mining machine must be shielded and miners must keep powder in boxes. The above named orders to be complied with before any mining was permitted.

Nov. 13th. Orders were given to employ means for providing and maintaining ventilation; electric wires must be constructed as required by law; mining machine must be shielded; escapement way much be made safe and available, and flywheel and belt must be guarded.

Valley.

Located south of Cambridge, O. Owned and operated by Downey & Balentine, Cambridge, O. Slope, with small per cent. grade, penetrating No. 7 seam of coal, 6 feet; second opening shaft 33 feet deep—this is a new opening and in good condition. While the second opening has just been sunk the way of escapement has not been installed to date, the management stating that means for ingress and egress would be installed at once. The output will be used for wagon trade, 4 miners being employed. Inspection October 29th.

NOBLE COUNTY.

The following two mines are owned and operated by the Cambridge Collieries Company, Cleveland, O., with branch office in Cambridge, O. Harry Cameron, General Superintendent.

Caldwell.

Located on the Pennsylvania R. R., north of Caldwell, O. Shaft 220 feet deep, penetrating No. 7 seam of coal, $4\frac{1}{2}$ to 6 ft. thick; fan ventilation; equipped with electricity, voltage 250; machine undercutting; motor and mule haulage. J. B. Morris, Supt., Caldwell, O.; Harry Roland, Mine Boss, Belle Valley, O.

March 25th and 27th. Found 218 miners and 107 others employed; also found working places in good condition, but trolley wire not fully guarded. Orders given to guard trolley wire and construct trapdoor on No. 7 north entry.

July 14th and 15th. Working places, haulways and traveling ways examined and found as follows: 146 miners and 98 others employed; mine was found in good condition considering the idleness of 103 days; only two heavy falls were found in making this examination, which was due to the management having all working places well timbered prior to April 1st. Some water was found in some of the working places, but no great amount. On July 13th repair work and the cutting of coal began, and on the 15th 146 miners and 98 others were put to work. On the 13th of July new hoisting ropes installed for safety, and all other necessary work in regard to safety had been performed.

Dec. 2nd. This examination was made jointly with L. D. Devore, Inspector District No. 10. 264 miners and 148 others employed; conditions in general, very good; the use of carbide was being violated, employes throwing refuse in the mine. Orders given that employes must burn carbide as required by law, and stretchers and blankets must be kept in the mine.

NOTE: Two sets of platform scales installed in the mine.

Laura.

Located on the Pennsylvania R. R. near Coal Ridge, Ohio. Shaft 185 feet deep penetrating No. 7 seam, coal 5 to 6 feet thick; fan ventilation; electrically equipped, voltage 250; machine under-cutting; motor and mule haulage.

W. J. Matheney Superintendent, Belle Valley; John Smalley Mine Boss, Belle Valley, also Jerry Oldray Mine Boss, Ava, Ohio.

March 30th and 31st. 160 miners and 109 others employed. Working places in good condition; ventilation at the inlet not sufficient, and orders given to provide same.

May 2nd. Visited to examine oil well which had been drilled through the excavation of the mine, the fear being, that the salt water was eating the casing in the oil well and be the means of the gas discharging in the mine and endangering the lives of employes.

Found the salt water eating the casing in oil well, and the oil well discharging gas out of the oil well on the outside of the mine.

July 20th and 21st. All working places, haulways and traveling ways were examined, found as follows: 162 miners and 125 others employed. A number of places were not working on account of water and falls, due to the idleness from April 1st.

The mine management was making every effort to put all of the working places in readiness and safe condition as fast as time would permit while all of the employes were at work. Also examined oil well which was reported on pre-

vious visit, May 2nd, the traveling way near and at the bottom of main shaft was considered dangerous.

Orders were given that oil well which was drilled through the excavation of the mine, must be protected to prevent any discharge of gas which might enter the mine by any leakage in casing of oil well, first by digging around said oil well down into the fire clay to hard bottom and constructing cement around same which must be three feet thick all around said casing and well finished at the top or at the roof; same was started July 20th a. m. Traveling way near and at the bottom of the shaft must be made safe for employes, same to be completed in 15 days.

Dec. 1st. This examination was made jointly with L. D. Devore of District No. 10, and finding as follows: 261 miners and 148 others employed. Dangerous dust was found at the bottom of the air shaft all along the airway, the same being discharged by the ventilating fan from the outside of the mine; also fine coal and dust found along the motor haul; refuge holes not as required by law; employes burning carbide unlawfully, by throwing refuse in the mine; blankets and stretchers not kept in the mine. Orders given on previous visit in regard to the oil well complied with, which was drilled through the excavation of the mine and was made safe. The traveling way at and near the bottom of the shaft in good condition; also the rock entry being driven along the side of the single entry is almost completed, which will improve conditions in several ways. Orders given that all dust and fine coal must be taken out of the mine and entries sprayed. Employes must burn carbide as required by law. Blankets and stretchers must be kept in the mine. Improvements: One steam boiler installed and two sets of platform weigh scales installed in the mine.

O'Gara No. 34.

Located on the Penna R. R. near Belle Valley, O. Owned and operated by The Middle States Coal Company, Chicago, Ill. Shaft, 187 ft., penetrating No. 7 seam, coal $4\frac{1}{2}$ to 6 ft. thick; fan ventilation; electrically equipped; voltage 250; machine undercutting; motor and mule haulage. Walter Smith, Byesville, O., Supt.; William Cooker, mine boss, Belle Valley, O.

March 20th-21st. Seventy-five miners and 53 others employed; working places in safe condition; coal is very uneven and the top bad and faulty, but the management was using every precaution to make employes safe. Refuge holes not fully made as required by law. Also found some loose and dangerous slate in the main North entry. Orders given to make refuge holes and keep same as required by the law, Sec. 931. Remove loose slate on the main North entry or make same safe.

Sept. 21st. Partial examination made; some falls of slate on the entries and some standing water. Mine being idle since April 1st, 1914. Two men loading boiler coal and some wagon trade. Orders given that mine must be examined with safety lamp before any miner enters the mine.

Coal Run.

Located on the O. R. & W. R. R. near Hirambsurg, O. Operated by Humphries & Leach, Hirambsurg, O. Drift opening into No. 8 seam, coal 4 ft. thick; furnace ventilation; pick mining; mule haulage. E. R. Leach, Supt. and mine boss, Hirambsurg, O.

March 9th. Working places in fair condition, the top is faulty requiring careful attention; the mine is also very wet. The escapement way was not safe and available, and a new entry was being driven in order to make a new escapement-way; This being the only means, and about 80 feet being unavailable from

main to place where entry was being driven, orders were given to rush escapement way as fast as possible for the safety of employees.

April 27th. E. C. Humphrey of Hiramburg, operating the mine at this time. Orders given to make survey of mine without any delay; also to make escapement wayway safe and available; unless the same was complied with same would result in the shutting down of the mine; 4 miners and 1 day man employed.

June 29th. Found escapement-way which has been demanded for sometime made available; standing water drained off; old workings had been abandoned and track taken out of the same. No orders issued.

Nov. 27th. Mine in fair condition. The main entry, which is the air way, required about 15 ft. to be driven to main outlet, which, when completed, will be the means of further escapement in the matter of safety. No orders given.

Neadmore.

Located $1\frac{1}{2}$ miles northeast of Whigville, Ohio. Operated by Van Dyne Bros., Whigville, Ohio. E. Van Dyne, Superintendent, and Milton Van Dyne, Mine Boss, Whigville, O. Drift into No. 8 seam; coal 4 ft. and $4\frac{1}{2}$ thick.

Oct. 6th. Five miners employed; found falls of slate in escapement way, also finding at the mouth of escapement the dirt had caved in from the surface. No. 1, east of main was being driven single entry 70 feet and no means of ventilation.

Orders given to make escapement way as required by law, and make break-through in No. 1 east entry.

Hague.

Located $1\frac{1}{2}$ miles southeast of Whigville, O., operated by Truman Moore, Whigville, O. Drift into No. 8 seam, coal 4 to $4\frac{1}{2}$ feet thick.

Feb. 16th. Two miners employed. Orders given to make escapement-way available; also to remove the ashes from the furnace which was an obstruction.

Oct. 13th. Found some falls of slate in airway which was obstructing the air. Orders given to construct brattices on main entry and increase ventilation, clean falls of slate in the air-way.

Stotts.

Located south of Quaker City, O., and owned by J. W. Stotts, Quaker City, O., R. D. 3. Operated by A. L. Early, Quaker City, O. Drift into No. 8 seam, coal 4 feet thick, employing one man.

April 7th. Found no ventilation and no escapement; south entry driven 396 feet; north entry 422 feet and main east 386 feet and no ventilation and no escapement. The mine was ordered shut down, and no more mining permitted until the second opening was made and ventilation provided.

Young.

Located near Summerfield, O., and owned by John W. Young, Summerfield, O. Drift into No. 8 seam, coal 4 feet.

April 15th. One man employed; mine found in bad condition and considered dangerous and unsafe on account of bad slate, with no ventilation and no escapement-way. Orders given that no more mining be permitted until mine was made safe and ventilation provided; also escapement-way available.

McClintock.

Located near Summerfield, O., operated by Eugene Horton, Summerfield, O. Drift penetrating No. 8 seam, coal $4\frac{1}{2}$ feet thick. One man employed.

April 15th. Found airshaft, which is the escapement way, caved in and no means of egress in the same; also no ventilation. Order given to make escapement way safe and available; also provide ventilation.

Snider.

Located near Whigville, O., and operated by Charles Snider, Whigville, O. Drift No. 8 seam, coal $4\frac{1}{2}$ feet thick.

May 11th. One miner employed and mine operating with but one opening; the main entry was driven 190 feet west and 66 south, making 256 feet and no ventilation; also no escapement. Orders given to make second opening and provide ventilation; no more mining permitted until orders were complied with. The miner was given orders not to return in the mine.

Shady Grove.

Located west of Caldwell, O., operated by John Pickenpaugh, Caldwell, O. Drift No. 8 seam, coal 4 feet thick; employs 4 men in the fall trade.

June 3d. Two miners employed; mine in good condition in every respect. Mine has been opened 2 years and this the first examination made. No orders issued.

Harmon.

Located west of Caldwell, O. Operated by T. H. Harmon, Olive Green, O. Williard Ralph, mine boss, Olive Green, O. Drift into No. 8 seam, coal $4\frac{1}{2}$ feet thick; employs 3 miners in the fall trade.

June 3d. One miner employed; mine in good condition with the exception of the ladder in second opening being unsafe, which was ordered repaired.

Brockton.

Located west of Caldwell, O. Owned by F. R. McNut, Caldwell, O. Drift No. 8 seam, coal $4\frac{1}{2}$ feet thick. Employs one man.

June 3d. Found but one opening and no ventilation. Main entry driven east 160 feet and room north 65, making 225 feet and no ventilation; also no escapement. Orders given to make second opening and provide ventilation before any more mining was permitted.

Stickerth.

Located southeast of Cumberland, O. Owned and operated by L. H. Stickerth, Cumberland, O. Drift into No. 8 seam, coal $4\frac{1}{2}$ feet thick; employs one man in the fall.

June 3d. Found but one opening and no ventilation. Orders given to make second opening and provide ventilation before any mining was permitted.

Shattuck and Boyd.

Located south of Caldwell, O. Owned and operated by C. E. Shattuck, Caldwell, O. Drift into No. 8 seam, coal $4\frac{1}{2}$ feet thick; block coal.

June 17th. Four miners employed; mine in good condition with the exception of a few stopping in breaks which were ordered built.

Nov. 17th. Former orders complied with.

Hupp.

Located south of Caldwell, O. Operated by J. P. Sleter, Caldwell, O. Drift into no 8 seam, coal $4\frac{1}{2}$ feet thick; one miner employed.

June 17th. Found second opening unavailable. Orders given to make second opening available.

Fore-Man.

Located south of Caldwell, O. Operated by C. E. Foreman, Caldwell, O. Drift No. 8 seam, coal $4\frac{1}{2}$ feet thick.

June 19th. Mine in good condition. Main east entry driven 86 feet; north entries driven 88 feet. Orders given to make second opening when the 100 feet was driven. One miner employed.

Keith.

Located south of Caldwell, O. Operated by Clem. McKee, Caldwell, O. Drift No. 8 seam, coal 4 feet thick.

June 19th. Second opening shaft and almost closed and no means of egress. Main entry drove 182 feet past airshaft and black-damp was found about 30 feet from face of entry. One miner employed. Orders given to make second opening available and provide ventilation at face of workings.

Rogers.

Located south of Caldwell, O. Operated by J. T. Rogers, Caldwell, O. Drift No. 8 seam, coal 4 feet thick.

June 19th. Found mine in good condition; main entry driven 110 feet; one miner employed. Second opening was ordered.

High-Hill.

Located near Sarahsville, O. Operated by George McLaughlin, Sarahsville, O. Drift No. 8 seam, coal 4 feet.

June 22d. This is a new opening with two miners employed. No orders issued.

Heathen Ridge.

Located near Sarahsville, O. Operated by Wentworth Brothers, Sarahsville, O. Drift No. 8 seam, coal 4 feet.

June 22d. Found in good condition with two miners employed. Only one opening to this mine; all entries were being driven to second opening and requiring airshaft sunk 15 feet. Orders given to make second opening at once.

Vorhies.

Located near Sarahsville, O. Operated by J. P. Vorhies, Sarahsville, O. Drift No. 8 seam, coal 4 feet thick.

June 22. Mine in fair condition with two miners employed; escapement-way was not available. Orders given to make escapement-way safe and available.

Everly.

Located near Sarahsville, O. Operated by W. M. Everly, Sarahsville, O. One miner employed.

June 22d. Only one opening; main entry driven 156 feet east and rooms working north and south. Orders given to make second opening, provide ventilation and make *brakes every 60 feet*.

Wickens.

Located west of Dexter City, O. Operated by C. A. Wickens, Dexter City, O. No. 8 seam, coal $5\frac{1}{2}$ feet thick.

June 24th. Found main entry driven north 70 feet and room driven west 25 feet. No orders issued.

Taylor.

Located west of Dexter City, O. Operated by Robert Taylor, Dexter City, O. Drift No. 8 seam, coal $5\frac{1}{2}$ feet thick.

June 24th. Mine found in good condition; entry driven west 85 feet; employs one man. No orders given.

Shafer.

Located southeast of Caldwell, O. Operated by Light Windle, Caldwell, O. Drift No. 8 seam, coal 5 feet thick.

June 25th. One man employed; mine in good condition. No orders given.

Nov. 28th. Two men employed. Found powder kept in the blacksmith shop and without any protection, which was ordered removed and kept in box as required by law.

Stafford.

Located south of Lewisville, O. Operated by John Dray, Ethel, O. Drift No. 8 seam, coal $4\frac{1}{2}$ feet thick. Employs 4 miners. Second opening shaft with fire basket.

July 3d. Found in fair condition with the exception of the airway which was obstructed. Orders given to make second opening as required by law, to be completed in 30 days. Miners must load fine coal out of the mine as required by law and keep their powder in boxes.

Forshey.

Located south of Lewisville, O. Operated by C. W. Forshey, Harriettsville, O. Drift, No. 8 seam, coal $4\frac{1}{2}$ feet thick.

July 3d. One miner employed. Found but one opening; main entry driven 300 feet north; no ventilation and no escapement. Orders given to make second opening and provide ventilation. No mining permitted until same was complied with.

Hunter.

Located $1\frac{1}{2}$ miles southeast of Cumberland, O. Owned and operated by John Hunter, Cumberland, O. Drift, No. 8 seam, coal 4 feet thick.

June 2d. Four miners employed. Former orders not complied with and it was necessary to repeat same: Provide and maintain the required amount of ventilation; make second opening safe and available; construct brattices as required by law. No more mining permitted until the above named orders were complied with.

Oct. 14th. Found some bad slate on the main entry which was considered dangerous. The escapement-way was also not available as required, only 18-inch opening. Orders given to make the slate on main entry safe and make escapement way safe and available.

MONROE COUNTY.

Walnut.

Located near Aitch, O. Operated by Dye & Dillon, Aitch, O. Shaft 14 feet deep, coal $2\frac{1}{2}$ feet thick with 12 inches of clay; employs 6 miners and 1 day man.

May 26th. Found second opening with iron stack on the surface and furnace at the bottom, making it impossible for ingress or egress. Mine was opened in 1910, and no examination having been made of this mine; worked on the double entry system, and the main entry driven 300 feet east and the north entry 30 feet. Orders given to make second opening as required by law, and no further mining permitted until same was made. A gasoline engine was used to hoist the coal.

Sept. 11th. Found second opening which was demanded on previous visit of May 26th; mine in very good condition with 11 miners employed. Near the ventilating furnace brattice was constructed with brattice-cloth; also travelingway to second opening not as required by law. Miners without powder boxes. Orders given to construct brattice near the furnace as required by law; make traveling-way to the second opening and miners must keep powder in boxes.

Bruce.

Located at Aitch, O. Operated by T. M. Dye, Aitch, O. Shaft 12 feet deep, coal $3\frac{1}{2}$ feet. Gasoline engine being used to hoist the coal and pump the water out of the mine.

May 26th. Examination was made as far as condition would permit, the mine being flooded with water. The second opening being used for airshaft which is 20 feet deep and being 4 x 4, has a ventilating fan constructed on the surface which completely obstructs the same from ingress and egress, with no steps or ladder provided. Main entry was driven 350 feet. Orders given to make escape-way safe and available as the law requires before any more mining is permitted.

Sept. 11th. Found 2 men cleaning mine for operation; as reported on previous visit, mine was flooded by water. No orders issued other than to comply with the orders issued on May 26th.

Clark.

Located near Jerusalem, O. Operated by David T. Clark, Jerusalem, O. Drift, coal 4 feet thick.

May 27th. Employs 3 miners. But one opening. Orders given to make second opening before any more mining is permitted.

SIXTH DISTRICT

D. H. SULLIVAN, INSPECTOR.

COSHOCTON, OHIO.

COMPOSED OF TUSCARAWAS COUNTY AND A PORTION OF COSHOCTON AND
CARROLL COUNTIES.

(683)

J. M. ROAN, *Chief Deputy and Safety Commissioner of Mines, Columbus, Ohio.*

DEAR SIR:—I herewith submit to you for your consideration my annual report of the 6th Mining District for the year commencing January 1st, 1914, to December 31st, 1914, inclusive.

My district is composed of Tuscarawas, part of Coshocton, Carroll and Harrison counties.

During the year I have made two hundred and twenty-one inspections in my district. Four days were devoted to the plugging of oil wells and on several occasions was called upon to do training with the safety apparatus in Columbus.

Permanent improvements during the year were: nine shafts sunk, 15 second openings made, five furnaces built, 8 fans installed and seven stairways erected. Large mines opened none, small mines six, abandoned two clay and four coal mines, suspended nine. Investigated one fatal accident during the year, caused by fall of stone.

The mining operations during the year have been in an unsettled condition. The first three months saw the mines in operation moderately. On April 1st, the scale of wages prevailing for the two years previous had expired, and mines suspended pending a new wage scale. Previous to this time different joint interstate conventions of miners and operators had been held and an effort had been made to amicably adjust their wage dispute but without result.

Joint meetings were held between Ohio miners and operators to adjust their differences. The prime factor preventing the reaching of an agreement was a law passed by the legislature at their early spring session making it compulsory to weigh all coal before screened, or what is commonly known as the mine run law. Finally in July, the operators and miners in their convention at Columbus, agreed on a scale of 47 cents per ton, based on mine run.

This settlement only applied to the Hocking, Guernsey and a few other smaller districts. Coshocton and Tuscarawas operators were not a party to this agreement and their mines remained idle.

In the latter part of the month of August the Tuscarawas district agreed on a wage scale and work was resumed early in September. Up to date Coshocton district having failed to amicably adjust their differences, both as to prices and working conditions, yet remains idle, with only a few of the larger and smaller mines in operation. The general depression in the business and industrial world prevailing during the year added greatly to the indifference and failure for the miners and operators to settle their wage dispute.

The production of coal during the year will therefore suffer a substantial loss over previous years, and the total tonnage mined in my district will be the lowest for many years.

The general condition of the mines in the Tuscarawas district is not very encouraging, largely due to the fact that the majority are old mines and the period of idleness, due to strikes in previous years, have materially added to the present deplorable conditions.

The great importance of the coal mining industry in our country has never been realized or appreciated by the coal consumers. The great risk often run by capital invested, and the danger and hardship faced and endured by the mine-worker is known only to those who have invested capital or worked in the mines. The consumers of coal care little whether coal operators make or lose money, or the miners earn a good or bad living, so long as coal is furnished to them and

sold cheaply. The enormous quantity of coal produced in this country is far in excess of consumption bringing about sharp competition, and is largely responsible for the strikes and lockouts that are now in Ohio and other coal-producing states of our country. With this deplorable condition confronting the mining department of Ohio, it is a very hard matter to enforce the mining laws and obtain the improvements that we know are necessary.

In conclusion permit me to express my sincere appreciation for the kind treatment received from both miners and operators, also for the help and counsel from both Mr. Roan and Mr. Davies, now Asst. Chief. To the office force I wish also to extend my thanks for courtesies shown me during the year.

Respectfully submitted,

D. H. SULLIVAN,
Inspector 6th District.

Coshocton, Ohio, December 31st, 1914 .

TUSCARAWAS COUNTY.

Rosebud No. 3.

Owned by the Royal Goshen Coal Co., New Philadelphia, O. Mine is situated on B. & O. R. R. near Midvale. Supt., Alex Smith; Mine boss, J. W. Fickes, both of New Philadelphia, O. Drift opening, No. 6 seam, furnace ventilation.

Feb. 6th. Found ventilation deficient due to furnace being too small to properly ventilate this mine. A new fan was laying outside and should have been installed. Ordered mine to cease work to install fan.

Dec. 8th. Mine was leased by Cole & Rutledge and sub-leased to Ralph Beatty who acts as Superintendent. Mine boss is Lou Singerman. Found ventilation rather weak in working places. Ordered doors and brattices repaired, also check doors on entries to better ventilate rooms. Pick miners, 53; inside day hands, 5; outside day hands, 3.

Hibbs.

Owned and managed by Enoch Hibbs, Uhrichsville, O. Drift opening, No. 6 seam, fan ventilation.

Feb. 16th. Ordered air-course cleaned out and better ventilation.

Feb. 20th. Again found ventilation sluggish as furnace was too small and airshaft of not sufficient area. Ordered a new shaft sunk.

May 4th. Found air shaft completed and fan installed, and general condition of mine much improved.

Dec. 10th. Mine was operated by the Evans Clay Co., Walter McMillen, Supt., Ed. Grostem, Mine boss. Are driving entry to connect with other opening. When done this should improve conditions of mine. 22 miners and 2 day hands employed.

Reeves No. 2.

Owned and operated by The Reeves Coal Co., Canal Dover. Located on the C. & P. R. R., $3\frac{1}{2}$ miles from New Philadelphia. Evan Phillips, Supt. and Mine Boss. Drift opening, No. 6 seam, 4 feet thick. Fan ventilation. Motor and mule haulage.

Sept. 11th. Found ventilation deficient, due to leakage in brattices. Break-throughs were not made lawful. Ordered these defects repaired and a stricter compliance with the mining law.

Sept. 22d and 23d. With Assistant Chief, J. C. Davis, a joint inspection was made. Found only one safe opening for this mine. Were driving east entry off main north, quartering to west entry. When holed, a second outlet will be re-established. Ordered brattices and doors repaired to improve ventilation.

Oct. 6th. With J. C. Davis, again inspected this mine. Found ventilation somewhat improved but not yet up to the required amount. Ordered further improvements made, also a special experienced man be placed along main haulway to keep a close watch on conditions of this entry, for reason of squeeze making it unsafe. Mine employs about eighty men.

Reeves No. 3.

Operated by the same company, and connects with the No. 2 mine. Same management. Drift opening; No. 6 seam; coal also 4 feet thick; fan ventilation; motor and mule haulage.

Sept. 4th. Found a large fall in main air course, causing a stagnation in the air current. Ordered fall cleaned out, doors and brattices repaired. General conditions of mine were fair. Cutters four; loaders twenty; inside day hands, five; outside, two.

Stillwater.

Owned and operated by H. P. Arnot, Cleveland, Ohio. Located on the B. & O. R. R., near Tippecanoe, O. Supt., Harry Leech, Stillwater, Ohio, who also acts as Mine boss. Shaft opening; No. 6 vein; $4\frac{1}{2}$ ft. thick; fan ventilation; motor haulage.

Oct. 14th. Requested trolley wire crossing roadways, guarded; loose stone on entries taken down and air-course cleaned out.

Nov. 11th. Found ventilation rather sluggish, due to doors needing repairs. Ordered repairs made. Other conditions of mine were approved. Cutters six; loaders, forty-three; inside day hands, twelve; outside, eight. Total, sixty-nine.

Houk.

Owned and operated by The American Sheet and Tin Plate Company. Located at Stillwater, Ohio. Supt., J. L. Houk; Charles Carnes, Mine Boss. Drift opening; No. 7 seam of coal 5 ft. thick; fan ventilation; motor haulage; pick mining.

Nov. 12th. Found bad roof in certain parts of mine. Requested sufficient and suitable timbers furnished to miners. General condition found good. Pick miners, thirty-seven; inside day hands, thirteen; outside, seven. Total, fifty-seven men employed.

Hazel No. 4.

Owned by the Hazel Goshen Coal Company, Midvale, Ohio. Located on B. & O. R. R. near Midvale. Drift opening; No. 6 vein, 4 ft. thick; fan ventilation. R. W. Rutledge, Supt.; C. B. Fox, Mine Boss, both of Midvale, Ohio.

Jan. 16th. Found ventilation deficient, due to leakage of doors and brattices. Ordered these repaired and to increase speed of fan.

Dec. 9th. Ventilation not up to the required standard. Insisted improvements in ventilation. Other conditions found fair. Pick miners, nineteen; cutters, eight; loaders, forty-five; inside day hands, seventeen; outside, nine. Total, ninety-eight.

Indian Hill.

Owned and operated by The Indian Hill Coal Company, Cleveland, Ohio. Located on Pan Handle R. R., near Uhrichsville, Ohio. Drift opening; No. 6 vein, 4 ft. thick; fan ventilation; motor and mule haulage; electric machine mining. Robert Bursner, Supt.; John Shanks, Mine Boss, both of Uhrichsville, Ohio.

Jan. 14th. Found considerable coal dust along main haul-way. Ordered this loaded but and roadways sprinkled. Also to not allow machines operated without shields.

Nov. 19th. Found C. L. Williams in full charge. Management agreed to make improvements as ventilation was found deficient.

Nov. 27th. Due to repairing boilers, fan was not running. Considerable black damp had gathered in the working faces.

Nov. 30th. Found general condition very much improved. Cutters, six; loaders, thirty-two; inside day hands, five; outside, seven. Total, fifty men employed.

Midvale Goshen No. 7.

Owned and operated by The Midvale Goshen Coal Company, Cleveland, Ohio. Located on B. & O. R. R., near Wainright, Ohio. J. C. Kite, Supt.; C. E. Florence, Mine boss, both of Wainright. No. 6 vein, 4 ft. thick; drift opening; fan ventilation; electric mining; rope and mule haulage.

Dec. 14th. Found bad roof in No. 7 and 8 left entries. Requested a suitable supply of timbers furnished to miners. General conditions of mines were good. Cutters, thirteen; loaders, eighty; inside day hands, twenty-five; outside, ten. Total, one hundred and twenty-eight.

Mullen No. 2.

Owned and operated by The Mullen Coal Company, Cleveland, Ohio. Located on the C. & P. R. R., five miles from New Philadelphia, Ohio. Supt., E. C. Howard; Mine Boss, Ed. Goulder.

Nov. 10th. Found three and four left entries dangerous on account of squeeze. Thirty-two miners had been removed from this section. Are driving quarter entry from five left, to head off this territory. General conditions of mine were found in good shape. Cutters, twenty; loaders, fifty; inside day hands, nineteen; outside, thirteen. Total, one hundred and two.

Wainright No. 6.

Owned and operated by the Midvale Goshen Coal Co., Cleveland, Ohio. Located on B. & O. R. R., near Wainright. Coal 4ft. thick; No. 6 seam; slope opening; fan ventilation; motor and mule haulage. J. C. Kyte, Supt.; Robt. Richman, mine boss.

Sept. 9th. Made inspection and found mine in fair condition. Cutters, fourteen; loaders, seventy-four; day hands, inside nineteen; outside eight. Total, one hundred and fifteen.

Horger Mine.

Owned and operated by the Horger-Heldt Co., New Philadelphia, O. Located on C. & P. R. R., near Vickers. Supt., Joseph Horger; mine boss, Louis James, both of New Philadelphia. Drift opening, No. 6 seam, 4 ft. thick; furnace ventilation; mule haulage.

Dec. 3rd. Found ventilation deficient, due to furnace being too small. Ordered fan installed. Break-throughs made at lawful distance. Doors hung instead of canvas. Also advised miners to regulate the firing of shots in rotation, until ventilation could be improved. Cutters, four; loaders, twenty-five; inside day hands, five; out day hands, three.

Goshen Valley No. 4.

Owned and operated by Herman Snider, New Philadelphia. Located on the B. & O. R. R., near Goshen. Herman Snider, Supt.; Albert Snider, Mine Boss. Drift opening. No. 6 seam. 4 ft. thick. Furnace ventilation. Mule haulage.

July 29th. Were mining a block of coal, left by the Goshen Coal Co., found ventilation deficient and escapement way impassible. Ordered doors and brattices repaired. A second opening made available and a better fire maintained in furnace.

Oct. 13th. Former orders having been complied with, this mine was found in a very much improved condition. Twenty-six miners, three inside day hands and two outside hands are employed.

Goshen Valley No. 5.

Owned and operated by the same company, with same management. Drift opening. No. 6 vein. 4 ft. thick. Furnace ventilation. Mule haulage.

July 29th. Found considerable black damp had penetrated into the working faces, due to breaking through into the old works. Ordered men out of mine and air current increased to remove the poisonous gases.

Sept. 2nd. Mine had been broken through into an entry leading to a shaft formerly used by the Goshen Coal Co. A fair current of air was traveling from this shaft, but on account of the many falls was not available as an escapement way. Ordered either a shaft sunk, or this entry cleaned out for second opening. Other conditions found fair. Pick miners, twenty-eight. Inside day hands, three. Outside hands, two. Total, thirty-three.

Silver Creek Mine.

Operated by The Akron Coal Co., Akron, Ohio. Located on the B. & O. R. R., near Wainright. Gibson Carlyle is Superintendent and Mine Boss. Drift opening. No. 6 vein. 4 ft. thick. Furnace ventilation. Mule haulage.

July 3th. Found no escapement way available for this mine. Also loose stone on haulage road. Ordered roadway made safe and second opening made. General conditions were fair.

Nov. 18th. Former orders had been complied with. Ordered doors and brattices repaired to improve the ventilation. Also to furnish suitable timber to miners. Other conditions were found fair. Company expects to install an electric plant and will introduce mining machines. Pick miners, sixty. Inside day hands, ten. Outside, eight. Total, Seventy-eight.

Veleney.

Owned by the Royal Goshen Coal Co., New Philadelphia, Ohio. Located on B. & O. R. R., near Midvale. C. D. Grimes, Supt.; Louis Singerman, mine boss. Drift opening, No. 6 seam, 4 ft. 2 in. thick; furnace ventilation.

March 19th. Are working a block of coal left by former company on the cut off system. Ordered certain changes to improve the air current at working faces. Also to erect a stairway in the seventy foot deep air shaft which is used as a second outlet. A single upright ladder now being used, I considered unsafe for travel. Otherwise mine in fair condition. 60 men employed.

Browns.

Owned and operated by H. R. Brown who is also in full charge. Located two and one-half miles east of New Philadelphia, Ohio, Drift opening, No. 6 seam; 3½ ft. thick; furnace ventilation.

March 26th. Found roadways very wet, due to hauling water in barrels. Depending upon natural ventilation, air current was deficient. Ordered furnace fired at all times during working hours. Also to drain and clean roadways. 7 men employed.

Rufenacht.

Owned and operated by J. C. Rufenacht, New Philadelphia, Ohio, who is in charge as Supt., with Frank Swickhart as mine boss. Located two miles southwest of New Philadelphia, Ohio. Drift opening, No. 6 seam, 4 ft. 4 in. thick; furnace ventilation.

March 24th. Mine found in bad condition. Air current being deficient due to furnace not being fired. Ordered a second outlet to this mine and better ventilation by maintaining a fire in furnace at all times during working hours. Fourteen pick miners, 2 day hands employed.

Tuscarawas Electric Light.

Owned by Tuscarawas Electric Light Company. Located one-half mile east of New Philadelphia, Ohio. Joseph Harper, Supt.; Fred Miller, mine boss, both of New Philadelphia, Ohio. Drift opening, No. 6 seam, 3½ ft. thick; furnace ventilation.

March 25th. Mine found in rather bad condition. Are mining crop coal, with bad roof overlying same. Ordered air shaft sunk to improve ventilation and to establish a second outlet.

May 8th. Former orders having been complied with, found general conditions of mine improved. Six men employed.

Eureka.

Owned and operated by C. W. Klein, New Philadelphia, Ohio, who is in full charge. Located near the same place. Drift opening, No. 6 seam, 4 ft. 4 in. thick; furnace ventilation.

March 20th. Found roof in this mine dangerous. Requested a sufficient supply of posts kept on hand at the working faces. Also to drain and clean roadways. Nine men employed.

Uhrichsville Coal.

Owned by the Uhrichsville Clay Company, Uhrichsville, Ohio. Located near the same place. Banner Minnich, Supt.; Charles Minnich, mine boss. Drift opening, No. 6 seam, 4 ft. thick; fan ventilation; furnace.

March 23d. Found mine idle.

May 19th. Mine in bad condition. Air shaft partly closed; traveling way not safe. Ordered repairs made to improve conditions.

June 29th. Former orders not being complied with; ordered men out of mine until mine was put in lawful condition. Since then mine has been greatly improved. Five men employed.

Bucher Mine.

Operated by the Bucher and Brick Coal Company, New Philadelphia, Ohio. Louis Bucher, Supt.; Samuel Bucher, mine boss. Drift opening, No. 6 vein, 4 ft. thick; furnace ventilation; located two miles southeast of New Philadelphia, O.

Sept. 10. Were driving through old works expecting to get into solid coal. General conditions of mine were good. Eight men employed.

Rufenacht.

Owned and operated by John Rufenacht, New Comerstown, Ohio. Located west of Port Washington, Ohio. Drift opening, No. 6 vein; natural ventilation.

Jan. 6th. Requested a new air shaft sunk for better ventilation and second opening made, before mine could resume operation. Three pick miners employed.

Dennison Sewer Pipe Coal Mine.

Operated by Dennison Sewer Pipe Coal Co., Dennison, Ohio. Located near Dennison, Ohio. P. A. Romig, Supt.; Lineham Fetter, mine boss. Drift opening, No. 6 vein; coal 3 ft. thick; natural ventilation.

Dec. 2d. Found many improvements made during the year and mine was found in good condition. Three pick miners employed.

Buckeye Fire Clay Coal Mine.

Owned and operated by the Buckeye Fire Clay Co., Uhrichsville, Ohio. Located near the same place. John Hite, Supt.; H. R. Pfister, mine boss, both of Uhrichsville, Ohio. Drift opening, No. 6 vein, 4 ft. thick; fan ventilation; mule haulage.

May 26th. General conditions were found fair.

Oct. 14th. Second outlet was found in unsafe condition. Also found places on main entry rather dangerous. Ordered repairs made.

Nov. 25th. Ordered stairway in escapement shaft. General condition somewhat improved. Fourteen miners, two day hands inside and one outside.

Novelty No. 2.

Owned and operated by The Novelty Brick Co., New Comerstown, O. R. L. Shoemaker, Supt.; C. F. Smith, mine boss. Drift opening, No. 6 seam, 3 ft. thick; fan ventilation.

Jan. 23d. Mine was not in operation. Did not make an inspection.

Scotts.

Located $1\frac{1}{2}$ miles from Uhrichsville, O., on Ridge road to Midvale, O. Operated by Walter Scott who also acts as mine boss. Drift opening, No. 7 seam, coal 4 ft. 8 in.; furnace ventilation.

Jan. 26th. Found ventilation weak, due to air course being partly choked. Ordered brattices and doors repaired; also air-course cleaned out. This mine will not last much longer as its coal supply is limited. Fourteen pick miners, 1 day hand are employed.

West.

Operated and managed by William Tansey of Dennison, O. Located 1 mile south of Dennison, O. Drift opening, No. 7 seam, coal 3 ft. 3 in. thick; natural ventilation.

Jan. 27th. Found left side of mine about mined out. Were cleaning new territory on right expecting a few months work from same. The future of this mine is not very encouraging. Five pick miners employed.

National Coal No. 2.

Owned by The National Fire Brick Co., of Strasburg, O., and located at same place. Supt., Thomas Kempt; mine boss, Martin Clapper of Strasburg, O. Drift opening, No. 6 seam, coal 3 ft. 3 in. thick; natural ventilation.

Feb. 4th. Company were drawing pillars and mine will be finished in about four months.

May 20th. On account of dangerous roof requested management to keep a close watch in drawing pillars in order to avoid accident. Five men employed.

Greer & Beaty Coal.

Operated by the Greer & Beaty Clay Co., Magnolia, O. Located at their plant near said place, with Joes. Degenhart in full charge. Drift opening into No. 5 seam of coal; furnace ventilation.

May 1st. Ordered boxes for storage of powder. Mine was found in good condition. Nine men employed.

Laughlin.

Operated by the Laughlin Coal Co., Mineral City, O. Located on C. & P. R. R. 3 miles north of same place. J. W. Laughlin, Supt.; Jas. Stevenson, mine boss. Drift opening, No. 5 seam, 4 ft. thick; furnace ventilation.

May 7th. Ordered furnace repaired at once in order to improve ventilation, also to drive entries double shifted to establish a safe second outlet. Ten pick miners and 6 day hands are employed.

Matthews.

Located one mile east of Dennison. Operated by L. Matthews who is in charge. Drift opening, No. 6 vein; furnace ventilation.

April 17th. Part of mine was drowned out. Gave orders to either improve the mine, furnish better ventilation or cease to operate. Four men employed.

Robinson Graves Coal.

Operated by the Robinson Graves Sewer Pipe Co., Uhrichsville, O. Located at their plant on B. & O. R. R. branch to Midvale. Drift opening, No. 6 vein; furnace ventilation.

April 16th. Found haulage road in a dangerous condition. Are trying to connect with another opening and if completed will be of great benefit. Fourteen miners employed.

Kline.

Operated by C. W. Kline of New Philadelphia who is in charge. Located $2\frac{1}{2}$ miles south of same place. Drift opening, No. 6 vein; furnace ventilation.

June 23d. This is a new mine opening into a new field of coal. Three men employed.

Cross.

Operated by J. E. Whitehouse, who is in charge. Located near Uhrichsville, Ohio. Drift opening, No. 6 seam, $3\frac{1}{2}$ ft. thick; natural ventilation.

April 15th. Found air current weak. Ordered mine to cease work until a air shaft has been made and a furnace installed.

July 1st. Were sinking air shaft and mine was not in operation.

Nov. 5th. Air shaft was completed and general conditions of mine were good. Six men employed.

Diamond Coal Mine.

Operated by the American Sewer Pipe Co., Akron, O. Supt., Walter Moore; mine boss, Levi Ross, both of Uhrichsville, O. Located at their plant near Uhrichsville, O. Drift opening, No. 6 seam, coal 3 ft. 8 in. thick; furnace ventilation.

March 13th. Found air current deficient due to furnace being too far away from working faces. Company is preparing to clean out entry leading into an old mine. When completed this ought to improve the general condition of this mine. Eleven men employed.

Dennison Coal.

Operated by Williams Bros. of Dennison, O., and located near same place. Drift opening, No. 6 seam, coal 3 ft. 10 in. thick; natural ventilation.

April 17th. Found ventilation deficient due to no fire in furnace. Break-throughs had not been bratticed off; neither was there an escapementway.

May 4th. Ordered a larger fire kept in furnace during working hours.

Nov. 20th. Were driving an entry to strike another old entry driven in from the outside for better ventilation.

Dec. 11th. Ventilation had not been improved. Ordered entry double shifted in order to reach the outside entry as soon as possible. Twelve men employed.

TUSCARAWAS CO. CLAY MINES.**Evans Clay No. 2.**

Operated by Evans Clay Co., Uhrichsville, O. Walter McMullen, Supt.; James Porter, mine boss. Drift opening, No. 5 seam, clay 8 ft. thick; natural ventilation.

Feb. 5th. General condition of mine fair.

Dec. 18th. General conditions of mine good. Ten men employed.

Evans Clay No. 3.

Owned and operated by Evans Clay Co., Uhrichsville, O. Supt., Walter McMullen; mine boss, Ed. Grostem. Drift opening, No. 6 seam, clay 8 ft. thick; found ventilation sluggish.

July 23d. New fan installed and ventilation greatly improved. Twelve men employed.

Buckeye Clay Mine.

Owned by the Buckeye Clay Co.. Located near Uhrichsville, O. Supt., John Hite; mine boss, John Kilpatrick. Slope opening, No. 6 seam, clay 7 ft. thick; fan ventilation.

March 9th. Found mine in good condition.

Nov. 10th. General conditions good. Eleven men employed.

Advance Clay Mine.

Operated by the Advance Fire Clay Co., Uhrichsville. Located at same place. George Ross, Sr., Supt.; George Ross, Jr., mine boss. Drift mine, clay 8 ft. thick; natural ventilation.

Jan. 15th. Found road wet and muddy due to lack of proper drainage. Ordered timbers replaced along haulage road and other condition approved.

May 22d. Ventilation found deficient. Ordered fan installed within 10 days.

July 13th. Fan was installed but owing to air course being choked did not give expected result.

July 24th.. Are driving a new slope into No. 5 clay.

Dec. 15th. Found general condition somewhat improved. Eight men employed.

American Clay Mine No. 2.

Operated by the American Sewer Pipe Co., Uhrichsville, O. Located at same place. Walter Moore, Supt.; C. A. Jones, mine boss. Drift opening into No. 5 seam of clay which is 7 ft thick.

March 18th. Ventilation was produced by a small fan driving air current through a box into the mine. Found no second opening. Ordered shaft sunk at once.

June 17th. Shaft was completed with iron stairway as a escapement way.

Nov. 6th. Fan had been installed and mine was found in good condition. Six men employed.

Uhrichsville Clay.

Owned by Uhrichsville Clay Co. and is located $1\frac{1}{2}$ miles west of Uhrichsville on Pan Handle R. R. Banner Minnich in charge. Slope opening into No. 6 clay which is 7 ft. thick; natural ventilation.

March 16th. Air shaft had been sunk but was not properly timbered. Mine was found in fair condition.

July 31st. Found bottom of shaft nearly closed and roadway in need of timbers. Ordered repairs made.

Oct. 2d. Former orders had not been complied with. Closed mine until it is in lawful condition. Seven men are employed.

Robinson Graves Clay.

Operated by the Robinson Graves Sewer Pipe Co., Uhrichsville, Ohio. Located on branch of B. & O. R. R. to Midvale. Drift opening into the No. 5 seam of clay. John Scott is in full charge.

March 17th. Ordered haulage road timbered, air course cleaned out and furnace fired to improve ventilation.

June 22d. Found very little improvement. Gave company three weeks to sink an airshaft and make other improvements.

Dec. 17th. Found Wm. Tansey in charge. Old part of mine had been abandoned and were driving into new territory. Ten men employed.

Royal Clay No. 4.

Operated by the Robinson Clay Product Co., Akron, Ohio. Located at their sewer pipe plant near Midvale. Shaft opening into No. 5 clay which is from 8 to 10 ft. thick. Supt., S. P. Myers, Uhrichsville; mine boss, Louis Just of Barnhill.

Jan. 13. Found mine in fair condition.

May 21st. Ordered main entry timbered. Other conditions were found good. Ten men employed.

Royal Clay No. 5.

Operated by same Company as No. 4 and is under the same management. This is a drift opening into the No. 6 clay which is about 10 ft. thick; fan ventilation.

Jan. 13th. Ordered great care to be exercised on account of the dangerous roof of this mine.

May 21st. Mine in fair condition.

Dec. 16. Found squeeze on second opening. Considered it unsafe. Ordered a new shaft sunk to establish an escapement way. Eleven men employed.

Diamond Clay.

Operated by the American Sewer Pipe Co., Akron, Ohio. Located at their plant near Uhrichsville, with Walter Moore in charge. Drift opening; fan ventilation; mine was found in good condition on June 18th when inspection was made. Twelve men employed.

National Fire Proofing No. 6.

Operated by the National Fire Proofing Co., Canton, Ohio. Located east of Magnolia, Ohio. Supt., A. H. Histler; mine boss, Samuel James. Drift opening. No. 6 seam of coal and clay; coal $2\frac{1}{2}$ ft. thick; clay 3 ft. thick.

Apr. 30th. Found air current sluggish. Furnace too small for proper ventilation of this mine. Ordered new air shaft sunk within ten days.

May 27th. Air shaft about completed and when furnace is installed this mine will be much improved. Ordered main entry timbered. Sixteen men employed.

COSHOCOTON COUNTY.

Warwick No. 4.

Operated by The Warwick Coal Co., Cleveland, Ohio. Located on W. & L. E. R. R., 4 miles southeast of Coshocton, Ohio. Supt., Emerson Ankeney; mine boss, Daniel Thomas, of Coshocton, Ohio. Drift opening, No. 6 seam, 4 ft. thick; fan ventilation; electric machine mining and motor haulage.

Jan. 8th. Ventilation found deficient due to doors needing repairs. Ordered timbers on main entry and other repairs made.

July 21st. Were driving water course towards the old Cassingham Mine which is full of water. All precaution was taken in driving this entry to avoid accident. Drill holes were kept fifteen feet ahead at all times.

Aug. 5th. Water course had been driven ten feet ahead of survey where old workings were supposed to be. Indications showed this entry in close proximity to old workings as water was rushing out of drill holes.

Aug. 12th. Found water course had holed and water from the old Cassingham mine was draining into a sewer laid for this purpose. General condition of mine fair. Twenty-eight men employed.

Morgan Run.

Owned and operated by the Morgan Run Coal Co., Cleveland, Ohio. Located on Pan Handle R. R., and W. & L. E. R. R., three miles east of Coshocton. Supt., R. B. Dennis; mine boss, Roy Shecley, both of Coshocton, Ohio. Drift opening, No. 6 vein, 3 ft. 8 in. thick; furnace ventilation; motor and mule haulage.

Jan. 7th. Found a squeeze on territory leading to working faces. This I considered very dangerous to men being entombed and ordered them to cease work.

Jan. 8th. Company closed mine and has not operated since. Twenty-three men were employed.

Davis No. 2.

Operated by David Davis, Conesville, Ohio. Located on the C. A. & C. R. R., near Tyrone, Ohio. Supt., David Davis; mine boss, James Larr. Drift opening, No. 6 seam, 3½ ft. thick; furnace ventilation; compressed air machine mining.

Jan. 9th. Found working faces not sufficiently supplied with air due to the cut off system of mining this coal. Requested certain improvements made to overcome this condition.

Aug. 6. Requested a stack built to give a better draft for furnace, as a greater volume of air should be furnished for this mine. Also that lights be carried on rope trips. Otherwise mine in fair condition. Seventeen cutters, 6 inside day hands, 5 outside day hands.

Warwick No. 5.

Owned and operated by the Warwick Coal Co., Cleveland, Ohio. Located on the W. & L. E. R. R., four miles east of Coshocton, Ohio. Emery Ankeny, Supt.; Peter Kirk, mine boss. Drift opening, No. 6 seam, coal 3½ to 4 ft. thick; fan ventilation; motor and mule haulage.

Jan. 6th. Found air shaft in dangerous condition. Timbers were broken and dirt had partly obstructed the air current and cut down ventilation. Ordered

repairs made. Also that wiring be given a general overhauling, as it was in bad shape. Mine has been idle since April 1st. Cutters 18. Loaders 82. Total day hands 29.

Rock Run No. 2.

Owned and operated by The Rock Run Coal Co., Coshocton, O. Located on the W. & L. E. R. R., about three miles west of Coshocton, Ohio. Homer Klein in full charge. Drift opening, No. 6 seam, coal 4 ft. thick; furnace ventilation.

Nov. 2d. Mine was idle. Had conference with Mr. Handlan the owner, about providing a second opening for this mine. Seventeen miners and 5 day hands had been employed.

Ohio Block Cannel Coal.

Owned and operated by the Ohio Block Cannel Coal Co., Toledo, Ohio. Located on the C. A. & C. R. R., three miles south of Warsaw, O. Supt., J. Goulding; mine boss, M. B. Alex Walula, both of Warsaw, Ohio. The coal is 3 ft. thick; drift opening; furnace ventilation.

July 7th. Found ventilation deficient at working faces. Break-throughs were not made lawful. Ordered a strict compliance of the mining laws in regard to both ventilation and break-throughs. Pick miners, 16; day hands, 6.

Nicholas Mine.

Owned and operated by Albert Nicholas, Coshocton, O., who has full charge. Located one mile west of Coshocton, O. Drift opening, No. 6 seam; ventilation natural.

Jan. 19th. Found conditions rather bad. Ventilation was sluggish. Second outlet in bad condition and entries needed timbering. Ordered repairs made.

March 2d. Conditions had been very much improved. A shaft had been sunk and ventilation up to the required standard. Six men employed.

Saxon Mine.

Owned and operated by Charles Saxton, Coshocton, O. Located near old Cassingham mine. Drift opening, No. 6 seam, 3 ft. 2 in. thick; ventilation natural.

Jan. 21st. Found air shaft in bad condition. Ordered it repaired and stairway built in same. Doors erected to ventilate working faces. Four men employed.

Adams Mine.

Owned and operated by Beal Adams, Coshocton, O. Located near old Cassingham mine. Drift opening, No. 6 seam, 4 ft. thick; natural ventilation.

Jan. 22d. Ordered shaft timbered and roadway leading to it cleaned out.

April 8th. Former orders had been complied with and general conditions of mine was very much improved.

Locust Grove.

Owned and operated by John Williams of Coshocton, O., who also has full charge. Located on W. & L. E. R. R., near Coshocton. Drift opening, No. 6 seam, 4 ft. thick; natural ventilation.

Jan. 22d. Was using small stove in shaft for ventilating purpose. This being the only means, caused ventilation very weak. Ordered furnace built and ordered miners to cease work until better ventilation was furnished.

June 2d. Found former orders had not been complied with and ordered mine closed until sufficient ventilation was had. Nineteen miners, 3 day hands employed.

Merry Widow.

Owned and operated by Ingham Bros., Coshocton, O. Located on W. & L. E. R. R. near Coshocton, O. Supt., John Ingham; mine boss, Peter Ingham, both of Coshocton, O. Drift opening, No. 6 seam, coal 3 ft. 6 in. thick; furnace ventilation.

Feb. 27th. Were mining out a small block of coal left in by the old Morgan Run mine. Ordered certain break-throughs closed to better ventilate working faces. Mine in fair condition. Nineteen miners, 3 day hands.

West No. 2.

Owned and operated by Charles West, Coshocton, Ohio, who also has full charge. Located near Coshocton, Ohio. Drift opening, No. 6 seam, 3 ft. 3 in. thick; natural ventilation.

March 31st. Found general condition of mine and especially roadways in bad shape and unsafe. Ordered mine to cease operation.

Oct. 21st. Mine had been abandoned, and were opening a new mine at Beech Hollow. Found this mine in fair condition. Three men employed.

Comboy.

Owned and operated by Thomas Williams, Coshocton, Ohio. Located one mile east of same place. Drift opening, No. 6 vein, 3½ ft. thick; furnace ventilation.

April 2d. Found ventilation deficient due to not closing breakthroughs properly. Ordered repairs made.

Oct. 28th. Mine was idle; requested management to establish a second opening and escapement way for this mine. Four men employed.

Treadway Mine.

Owned and operated by James Gillen, Roscoe, Ohio, who also is in full charge. Drift opening, No. 6 vein; coal 3½ ft. thick; natural ventilation.

April 4th. Found ventilation deficient, and in order to overcome this I ordered a new air shaft sunk, otherwise mine in fair condition.

April 21st. Found air shaft had been sunk and general condition much improved. Four men employed.

Clark Mine.

Owned and operated by George Bussard, Roscoe, Ohio. Situated near Roscoe. Drift opening, No. 6 vein, 3 ft. 4 in. thick; natural ventilation.

April 6th. This is practically a new mine. An air shaft has been sunk and the general condition of the mine were approved. Three men employed.

Foster Mine.

Owned and operated by Jeb. Foster of Roscoe, Ohio, who also has full charge. Located two miles west of Roscoe. Drift opening, No. 6 seam, 3 ft. 3 in. thick; natural ventilation.

April 7th. Closed mine. Ordered new air shaft sunk, in order to supply the ventilation for this mine.

April 22d. Former orders had been complied with and found condition very much improved.

Sept. 29th. Found ventilation again deficient due to air course being partly closed. Ordered a furnace installed and doors used instead of canvas.

Oct. 19th. Found mine in fair condition. Twelve men employed.

Zeller Mine.

Owned and operated by Kimmel Zeller, West Lafayette, Ohio, who also has full charge. Drift opening, No. 6 seam; natural ventilation.

March 11th. Ordered shaft timbered, and suitable timber furnished to miners.

Sept. 8th. Former orders not complied with and closed mine to make repairs. Three men employed.

Retilley Mine.

Owned and operated by Bert West, Mount Vernon, Ohio. Drift opening, No. 6 vein, 3 ft. 8 in. thick; natural ventilation. This is a new mine with second opening not completed. Mine in fair condition.

Oct. 31st. Found air current deficient. Ordered air shaft sunk and furnace installed.

Dec. 3d. Former orders had been complied with and general conditions were very much improved. Eight men employed.

Wolford Mine.

Owned and operated by George Wolford, Roscoe, Ohio. Drift opening, No. 6 seam, 3½ ft. thick. Natural ventilation.

May 12th. Found ventilation deficient. Ordered furnace built and timbers along roadway.

July 9th. Former orders having been complied with, found general condition improved. Three men employed.

Wood.

Owned and operated by J. G. Wood. Located on the Cambridge Pike near Coshocton, Ohio. Drift mine, No. 6 seam, 3 ft. 4 in. high; natural ventilation.

Jan. 19th. Ordered pit mouth timbered and second outlet made available.

April 9th. Mine in fair condition except second opening on which no repairs had been made. Gave strict orders to do this.

July 20th. Closed mine until second opening is ready and available.

Aug. 13th. Air shaft completed and general conditions much improved.

Dec. 4th. Mine was found in fair condition. Five men employed.

Caley Mine.

Operated by Charles Caley, Coshocton, Ohio, who has full charge. Located two miles west of Coshocton, Ohio. Drift opening, No. 6 vein, 2½ ft. thick; natural ventilation.

Aug. 14th. Found general condition of mine fair. Three men employed.

Hahn.

Operated by George Lint, Roscoe, Ohio. Located two miles west of Roscoe, Ohio. Drift opening, No. 6 seam, 3 ft. thick; natural ventilation.

Aug. 17th. Ordered main entry timbered. A ladder installed in air shaft. Other conditions were found good. Three men employed.

Aronholt.

Owned and operated by Joseph Aronholt of Coshocton, Ohio. Located on the Plainfield road. Drift opening, No. 6 seam, 3 ft. 3 in. thick; natural ventilation.

March 11th. Are mining a small block of coal left by the Wade Coal Company. Ordered timbers put in pit mouth; other conditions fair.

July 6th. Mine was abandoned. Four men had been employed.

Plain View Mine.

Operated by M. S. Wolford of Coshocton, Ohio. Located $2\frac{1}{2}$ miles east of Coshocton, Ohio. Drift opening, No. 6 seam; natural ventilation.

Dec. 28th. Found ventilation deficient due to only driving single entry. Stopped entries from being driven any further. Ordered double entries driven and necessary doors and brattices put in to improve the ventilating current. Bottom of shaft was ordered cleaned to establish a second outlet. Nine men employed.

Rock Run No. 1.

Owned and operated by M. S. Wolworth of Coshocton, O., who is in full charge. Drift opening, No. 6 seam, $3\frac{1}{2}$ ft. thick; furnace ventilation.

Jan. 20th. A new air shaft had been sunk but no furnace is yet built. Ordered furnace installed. And stopped all entries until this is done.

Feb. 19th. Former orders being complied with. Ventilation was much improved. Second opening had been made and mine was found in good condition.

May 25th. Found large fall on main haulway. This mine has a very bad roof in general and is very expensive to operate. Due to this condition no wide work can be driven.

Aug. 3rd. Found mine abandoned as it was no longer profitable to operate. Nine men employed.

Blackson Mine.

Operated by the Blackson Coal Co., with Blackson Bros. in charge. Located four miles east of Coshocton, O. Drift mine, No. 6 seam; furnace ventilation.

Jan. 8th. Found ventilation in some parts of the mine deficient. Ordered check doors on entries to better ventilate working faces. Also to drive a second opening.

July 15th. Former orders having not been complied with ordered mine to cease work until second outlet is made for this mine.

Sept. 17th. Second opening about completed, other conditions of mine found fair. Seven men employed.

Black Diamond Mine.

Owned by the Black Diamond Coal Co., Coshocton, O. Located at Hardscrabel. Charles Wells has full charge. Drift opening, No. 6 seam, $3\frac{1}{2}$ ft. thick; natural ventilation.

Oct. 30th. Ordered entry leading to old air shaft cleaned out for the purpose of better ventilation and to establish a second outlet. Mine in fair condition otherwise. Three miners employed.

Beach Hollow.

Owned and operated by Charles West of Coshocton, O. Located at Beach Hollow. Drift opening, No. 6 seam, 3 ft. thick; natural ventilation.

Nov. 23d. Found mine in dangerous condition. As mine was idle ordered it to remain so until improvements were made. This mine has not operated since.

Brownfield Mine.

Owned and operated by Clyde Brownfield, West Lafayette, O. Located 3 miles southeast of same place. Drift opening, No. 6 seam, $3\frac{1}{2}$ ft. thick; natural ventilation.

May 18th. Found mine idle. Air shaft too small for either ventilating purpose or escapement way. Ordered shaft made larger.

Sept. 8th. Closed mine until orders complied with. Four miners employed.

Drake Mine.

Owned and operated by Thomas Williams, Coshocton, O. Drift opening, No. 6 seam, 3 ft. 3 in. thick.

June 1st. Found mine suspended.

Dec. 30th. Mine in good condition. Three men employed.

Brick Yard Coal Mine.

Owned by the Coshocton Brick Yard Co., with Charles West in charge. Drift opening, No. 6 seam, 3 ft. 2 in. thick; natural ventilation.

July 3d. Found mine in bad condition. Ordered second opening made safe. Entries timbered and a supply of timbers furnished the miners.

July 15. Ordered new shaft sunk and furnace installed. Closed mine until improvements were made.

Aug. 7th. Orders having been complied with. Found mine in good condition.

Dec. 14th. Ordered air course cleaned out. General conditions were approved. Three miners are employed.

Powers.

Operated by the Powers Coal Co., Coshocton, O. Located near the Warwick mine on the same branch. Will Powers, Supt.; A. J. Powers, mine boss, both of Coshocton, O. Drift opening, No. 6 seam, coal $3\frac{1}{2}$ ft. thick; furnace ventilation. Found air shaft had been sunk at the head of workings and found the general conditions of this mine to be good. Eighteen men employed.

Lear.

Owned and operated by the Lear Coal Co. Situated on the Cambridge pike. Drift opening, No. 6 seam, coal 3 ft. thick; furnace ventilation.

Feb. 2d. Were drawing pillars. Air current was very weak and ordered men out of places. Ordered continuous fire kept in furnace.

July 8th. Found mine suspended. Ordered pit mouth timbered and second opening made available. Three men employed.

Hudson.

Owned and operated by Daniel Hudson of Cambridge. Located on the Cambridge pike. Drift opening, No. 6 seam, coal $3\frac{1}{2}$ ft. thick; furnace ventilation. Had been driving through old works in an effort to reach solid coal. Found air current deficient and no second opening. Ordered improvements made.

July 22d. Driving water course and when completed will greatly improve the mine.

Oct. 20th. General conditions good. Six men employed.

Robinson.

Owned and operated by Joseph Robinson, Chestnut St., Coshocton, Ohio. Drift opening, No. 6 seam, coal $3\frac{1}{2}$ ft. thick; natural ventilation.

March 3d. Are driving through old workings to reach the solid coal. Ordered a certain entry driven to improve the ventilation.

April 20th. Had conference with Company in regard to locating an air shaft.

Oct. 27th. Ordered air shaft within two weeks. Three men employed.

Golddust.

Operated by John Bosson of Coshocton who is in charge. Located on Lafayette pike near Coshocton. Drift opening, No. 6 seam, $3\frac{1}{2}$ ft. thick; natural ventilation. Were making general repairs to drive into a block of coal left by a former company. Mine in fair condition. Two men employed.

Daley Cannel Coal.

Operated by Harry Daley who has full charge. Located two miles north-east from Coshocton on the Lafayette pike. Drift opening, No. 6 seam, coal 3 ft. 2 in. thick.

June 15th. Are mining a small vein of cannal coal. Ordered artificial means of ventilation installed.

Sept. 28th. Ordered mine closed to produce proper ventilation and dangerous places timbered. Two men employed.

Wade No. 4.

Operated by Ingham Bros. Located on W. & L. E. R. R., near Coshocton, O. John Ingham in full charge. Drift opening, No. 6 seam, coal 3 ft 3 in. thick; natural ventilation. This is a new mine and conditions are fair. Twelve men employed.

Coshocton Clay.

Operated by the Coshocton Brick Co., Coshocton, O. Situated at their plant on the W. & L. E. R. R. near Coshocton, O. Supt., Allen Holmes; mine boss, Roy Harding. Drift opening into the No. 6 clay.

Jan. 3d. General condition of mine was found fair.

April 3d. A new stairway had been put in air shaft, which is a great improvement towards an escapement way.

July 2d. Found mine abandoned.

CARROLL COUNTY.

Tuley.

Owned and operated by Henry Sell, Carrollton, Ohio. Situated near Carrollton, Ohio. Drift opening, No. 6 seam.

Feb. 10th. Ordered mine closed until air shaft or escapement way is made. Three men employed.

Wesley Coffee.

Owned and operated by Wesley Coffee, Sherrodsville, Ohio. Located near Carrollton pike. Drift opening, No. 6 seam; coal 3 ft. 3 in. thick. Closed this mine until second opening made and ventilation furnished. Three men employed.

Big Four Coal and Clay No. 6.

Operated by Big Four Brick Co., Carrollton, Ohio. Located near Oneida. Supt., W. A. White; mine boss, W. F. Keaster, both of Minerva, Ohio. Drift opening, No. 6 seam of coal and clay; coal 2½ ft. thick; clay 7 feet thick; furnace ventilation.

Feb. 11th. This mine is operating both coal and clay together. Found second opening in rather dangerous condition due to broken timbers. Ordered repairs made. Twelve men employed.

Big Four Coal and Clay No. 5.

Owned and operated by the same company and same management. Slope opening, No. 5 vein; coal 3 ft. 2 in.; clay 7 ft. thick; fan ventilation.

Feb. 11th. This mine was found in good condition. Eight men employed.

Metropolitan Brick No. 6.

Owned and operated by the Metropolitan Brick Co., of Canton, Ohio. Supt., F. M. Scharly; mine boss, Matt Friend. Situated on the C. & P. R. R., near Minerva, Ohio. Drift opening; coal 2 ft. 6 in.; clay 6 ft; fan ventilation.

Feb. 12. Found air course partly choked due to falls. This entry is also used for second opening. Ordered this made available. General condition of mine fair. Nine men employed.

Metropolitan Brick No. 5.

Owned and operated by same company as No. 6.

Feb. 13th. Found shaft leading from this mine to No. 6 in dangerous condition. Ordered general improvement made in order to establish lawful condition.

June 27th. Found mine suspended. Five men employed.

Midway.

Owned by the Whitacre Fire Proofing Co., Waynesburg, Ohio. Located near same place. Supt., William Parker; mine boss, Adam Burwell. Drift opening; coal 8 ft. thick; clay 5 ft.; natural ventilation.

April 29th. Found ventilation deficient. Ordered fan installed within seven days.

May 28th. Found fan erected. Were waiting on motor for fan.

Aug. 21st. Fan in operation. Ventilation was good and general conditions were improved. Fourteen men employed.

Robinson No. 5.

Operated by the Robinson Product Co., Akron, Ohio. Located near Malvern, Ohio. Supt., John Becker; mine boss, J. J. Johnson. Slope opening; clay 5 ft. thick; fan ventilation.

April 27th. Found air current deficient. Also many breakthroughs that should have been closed. Ordered break throughs bratticed off. Enlarge the bottom of shaft, to improve ventilation. Also to repair escapement way.

Aug. 19th. Ordered fan placed at entrance to air shaft. Also to install larger fan. Also doors to be erected in the interest of better ventilation. 18 men employed.

Sandy Valley.

Operated by Deckman & Duty, Cleveland, Ohio. Located near Malvern, Ohio. Supt., J. F. Fisher; mine boss, Michael Buck. Drift opening; coal 2 ft. 8 in. thick; clay 7 ft. thick; furnace ventilation.

April 28th. Mine is driven in a long distance. Air current was weak. Ordered two men to stop work, being too far ahead of air. Are driving entry into an old drift for the purpose of installing a fan to improve ventilation. Ordered this entry double shifted. Also to keep a good supply of timbers furnished at working places.

June 25th. Fan had been installed but was not running due to breakage of machinery. A good fire was kept in furnace while fan was off. General condition fair. Twenty men employed.

Pike Run.

Operated by the Malvern Fire Clay Co., Malvern, Ohio. Located near Malvern, Ohio. Supt., H. C. Downer; mine boss, W. G. Smith. Slope opening, No. 6 seam; coal 2 ft. thick; clay 7 ft.

April 29th. General conditions of this mine were good.

Aug. 20th. Ordered doors erected instead of canvas. General condition good. Eighteen men employed.

SEVENTH DISTRICT

EVAN LEWIS, INSPECTOR.

MASSILLON, OHIO.

COMPOSED OF THE COUNTIES OF HOLMES, MEDINA, OTTAWA, PORTAGE,
STARK, SUMMIT, TRUMBULL AND WAYNE.

(705)

The Industrial Commission of Ohio, Division of Mines.

DEAR SIR:—In compliance with the custom of the Division of Mines, I herewith submit for your approval my annual report of the Seventh Mining District, for the year beginning January 1, 1914, and ending December 31, 1914.

My district composes the counties of Medina, Otta, Erie, Portage, Stark, Summit, Wayne and Holmes.

Two hundred and seventy-six visits were made in the district during the year; seven days were spent outside of my district at the request of the Chief Deputy. Three days were spent in Jackson County, fighting mine fire at Wellston, O., and four days spent in Perry County, opening up the Congo mine, making a total of two hundred and eighty-three visits. Sixteen new mines were opened, five were suspended, and eight were abandoned. Sixty-eight improvements were made as follows: Furnace, two; fans, three; airshafts, ten; 2d openings, fifteen; additional openings, nine; safety-catches, five; stairways, eighteen; and speaking tubes, six. Seventeen sets of scales were tested, fifteen were found correct and two incorrect.

It is with regret that I have to report five fatal accidents which occurred in the mines of this district during the year: On February 27th Anthony Paudla was injured at Fox No. 12, while loading machine on a hill room, machine started over blocks and caught Paudla, who died from injuries received, on March 3d. On March 10th Noble Irwin was injured at the A. & C. mine by trying to get charge of powder back to end of hole using the sharp end of tamper, which caused shot to go off, and died March 13th. On March 23d Sam. J. Williams was injured at the Hutson No. 4 mine while removing a prop to load machine, stone came down and caught him, and he died from injuries received. April 15th John Kirk was killed at Elm Run No. 12 mine on October 19th, by a fall of coal. On November 10th William Greeter was killed at the Willow Grove mine by a fall of stone at the face of his room.

With the above misfortune to our fellow craftsmen, we cannot but realize that there is much to be done in this great industry to reduce the accidents which occur year after year.

It is evident that our accidents are due to reckless methods used by our craftsmen and, in my opinion, they will continue as long as men will neglect their own safety, yet we often hear miners claiming that the department has no right to dictate as to their methods of mining; generally, we find him the man who needs the most protection, and with the experienced miner, we will often find him working under loose draw-slate without timbers, neglecting his ownself, and at the same time teaching the inexperienced man a very poor lesson.

Injuries reported in the coal mines of the State show in the past year, that it is the miner who is in the prime of life, and who has had ten or fifteen years of experience, who are meeting with the majority of our mine accidents and I regret to say that they are our most able miners who are losing sight and are to be reminded of this great question of conserving lives. It is very true when miners enter a mine they have a great many lurking dangers with which to contend, whether he be an experienced man or otherwise. The experienced or practical miner should not need be reminded of the duty he owes to himself and to the inexperienced man. It is naturally expected that he should give more than ordinary attention to the risk which the younger miner must learn from experience, and should teach him the safest methods of mining.

We have in some mines of the State, a safety inspector employed by the company, whose duties are to look after the safety of about 25 or 30 men in a

certain section of the mine, making two and three visits each day; this has been a great step towards reducing the number of accidents, and the result has been highly approved by the inspectors of these districts.

It is interesting to observe also that some of the operators have become interested in conserving the lives of their men. They should be given all the assistance that it is possible to render in their safety movement, and while this great work for safety is going on, I believe the practical miner should have an awakening for his assistance is needed in this work and with his influence we can reduce the accidents to a minimum.

The condition of the coal trade in this district for the year was not as good as compared with other years, owing to the trade being very poor and as this was the year in which a new scale of wages had to be negotiated, it proved to be of some disadvantage to the large companies to prepare for an early market; Massillon coal, which is decreasing in its production, owing to the seam being nearly exhausted with the decrease in production, operators are experiencing difficulty finding a market for it, and are complaining of competition.

In conclusion I desire to say that my relations with miners and operators have been very encouraging, and the assistance of both in securing better conditions, is fully appreciated. In addition I desire to thank the members of the department for the many courtesies shown and valuable advice given at all times during the year.

Very respectfully,

EVAN LEWIS, *Massillon, O.,*
Inspector Seventh District.

December 31, 1914.

OTTAWA COUNTY.

U. S. Gypsum Lower.

Located near Gypsum, Ohio, on the L. S. & M. S. R. R. Owned and operated by the U. S. Gypsum Co., Chicago, Ill. Erhart Holms has full charge, Gypsum, Ohio. This is a slope 200 feet into the No. 2 seam of gypsum which is 10 feet thick; fan ventilation and worked on double entry system. Employs 20 machine miners, 20 loaders and 31 day men. Inspections made January 8th, April 10th, mine found in good order. July 28th, accompanied by Assistant Chief Deputy J. C. Davies, who was highly pleased with conditions found. Mr. Holms is worthy of much credit for the safety devices that have been installed at this mine. December 8th, mine found in very good condition.

American No. 1.

Situated near Port Clinton, Ohio, on the L. S. & M. S. R. R. Owned by the American Gypsum Co., Port Clinton, Ohio. Arthur Chase, Port Clinton, Ohio, has full charge. This is a shaft, 44 feet deep, mining No. 1 seam of gypsum, which is 6 feet thick; two fans used as a ventilation medium. Employs 20 machine men, 22 loaders and 31 day men. Four visits made during the year.

Jan. 7th. It became necessary to criticize the method of storing explosives in mine. Orders were issued for a place to be sealed off in mine in which to keep one day's supply of explosives and to be kept locked.

April 8th. Found former orders partially complied with.

July 29th. In company with the Assistant Chief J. C. Davies, conditions were much improved, and very satisfactory.

Dec. 10th. I found new safety catches had been installed on west cage and mine found in good order.

Fishack No. 2.

Situated near Gypsum, Ohio, on the L. S. & M. S. R. R. Operated by the Fishback Gypsum Company, Port Clinton, Ohio. E. J. Hughes, Gypsum, Ohio, has full charge. Slope opening 125 feet in length, penetrating the No. 1 seam of gypsum, which is 5 to 6 feet thick. Exhaust steam as a ventilation medium. Employs 8 machine men, 12 loaders and 18 day men.

Jan. 6th. Conditions were good.

April 9th and July 30th. Found very satisfactory.

Dec. 9th. Mine had changed hands, and is now operated by the American Cement Plaster Company, Gypsum, Ohio. On this visit preparations being made to install fan.

ERIE COUNTY.

Castalia.

Located near Castalia, Ohio, on the L. E. A. & W. R. R. Operated by the Kelley Plaster Company, Sandusky, Ohio. D. L. Kibler, Castalia, Ohio, is superintendent, with Niel Smith, mine foreman, Castalia, Ohio. Shaft opening 75 feet deep, penetrating the No. 2 seam of gypsum, which is 8 feet thick. Fan used as a ventilation medium. Employs 6 machine men, 15 loaders, and 3 day men.

Jan. 9th. I found no safety catches being used on cages. Orders were left that no men be allowed to go up or down on cages until safety catches were provided. Ordered signal code observed as law requires.

April 7th. Found former orders had not been complied with very strictly.

July 27th, J. C. Davies and myself visited mine and found cages had not been put in compliance with former orders. It became necessary to issue special orders with a time limit. Ordered covers put on cages, landing place put in stairways, and speaking tube placed in shaft in 30 days.

Dec. 7th. Found former orders complied with. Ventilation found deficient in the south entry. Ordered door put up on main entry, and break-through closed up on east side entry in 14 days.

MEDINA COUNTY.

James Mine.

Located near Wadsworth, Ohio, on a branch of the Erie R. R. Operated by the James Coal Co., Wadsworth, Ohio. Mine abandoned March 5th.

Star.

Located near Wadsworth, Ohio. Owned and operated by the Hutchinson Coal Company, Wadsworth, Ohio. John Hutchinson, Wadsworth, Ohio, is superintendent; John Malaney, Wadsworth, Ohio, is mine foreman. Slope opening 150 feet in length, mining the No. 1 seam of coal, which is 4 feet thick at this point; exhaust steam is used to ventilate. Employs 7 to 10 men. Four visits were made during the year.

Jan. 22d. Ordered ladders put in the escape shaft. Ordered miners to comply with carbide restrictions more strictly; aside from this conditions were good.

March 10th. Ordered map to be made of mine.

July 6th, October 16th. Mine was found in good condition.

Pleasant Valley.

Located near Wadsworth, Ohio. Operated by Gerstenschlager & Son, Wadsworth, Ohio. O. V. Gerstenschlager has full charge. Slope opening 203 feet in length, mining the No. 1 seam of coal which is 3 feet thick at this point; ventilated by exhaust steam. Employs 8 to 10 men.

Jan. 23d. Found air very poor at the face of workings, owing to doors not being put up when needed. Ordered No. 2 and No. 3 rooms stopped until air could be brought up to the working face. Ordered door put up between the first and second butt entry, at once.

March 23d. Found former orders had been complied with and mine in fairly good order.

July 7th. Found east side of mine filled up with black damp, which was coming in from old workings. Ordered east side of mine stopped until a new air way could be provided.

Oct. 15. Found a new air way being made.

Hambelton.

Located near Wadsworth, Ohio. Operated by the Hambelton Coal Co., Wadsworth, Ohio. Geo. Hambelton, Wadsworth, Ohio, has full charge. Drift opening into the No. 1 seam of coal, which is 4 feet thick. Employs 8 to 10 men. Has furnace ventilation. Visited January 23rd, found conditions fairly good. July 7th, ordered ladder put in escape shaft, aside from this conditions were good.

Harpley.

Located 3 miles north of Wadsworth, Ohio. Operated by James Coal Co., Wadsworth, Ohio. Thomas James, Wadsworth, Ohio, is Superintendent. Slope opening 120 feet in length, penetrating the No. 1 seam of coal, which is 3 feet thick at this point. Employs 8 to 10 men. Made one visit October 14th, finding it to be a new opening and conditions fair.

Klondyke.

Remained suspended throughout the year.

Smith.

Located near Doylestown, Ohio. Operated by the Smith Coal Co., Doylestown, Ohio. Peter Smith, Doylestown, Ohio, has full charge. Slope opening into the No. 1 seam of coal. Employs 4 men, has natural ventilation. Visited March 23rd, found they were removing pillars from the old Weavers Slope with conditions fairly good.

Oct. 5th. Found ventilation deficient at the face of workings; ordered brattice on rock entry repaired and two stoppings put up in room necks on left of main entry in 10 days.

PORTAGE COUNTY.

Hutson No. 4.

Located near Deerfield, Ohio, on the L. S. & M. S. R. R. Owned and operated by the Hutson Coal Co., Cleveland, Ohio. T. J. Williams, Deerfield, Ohio, is Superintendent; Sam. Jones, Deerfield, Ohio, is mine foreman. Shaft opening, 215 feet deep into the No. 1 seam of coal, which is from 3 to 4 feet thick, worked on the single entry system; has fan ventilation, with motor and mule haulage. Employs 57 pick miners, 6 machine runners, 27 loaders and 44 day men. Five visits were made during the year.

Feb. 18th and 19th. Found ventilation deficient throughout the interior of mine owing to the main inlet being closed up by falling roof; the following day a force of men was put to work short cutting air way, and putting in several new stoppings; this improved conditions very much. Tested safety catches, found south cage would not act; ordered no men or persons to be allowed to go up or down on cage until repaired. Ordered shields put on machines at once.

July 10th. Found men at work putting in tile stoppings in place of old ones, between main inlet and outlet and the work was being well done.

Sept. 23d. Visited mine to investigate accident which befell Sam. J. Williams, Deerfield, Ohio, who was injured March 23d, and died April 15th. Mr. Williams was a machine man and while loading machine he removed a post without first putting up a safety, and was caught by a fall of stone.

Oct. 22d and 23d. Mine in fairly good order.

Dec. 16th and 17th. Ventilation deficient in Moss entry and in Reese and Richards entry; ordered ventilation brought up to the face of these workings in 5 days. Tested safety catches, found south cage would not work; ordered no men be allowed to ride on cage until repaired. Ordered indicator repaired on hoisting engine and a return signal put at bottom of shaft in 5 days.

Mullins.

Located near Deerfield, Ohio, on the L. S. & M. S. R. R. Operated by the South Palmyra Coal Company, Canton, Ohio. Paul Haubert, Deerfield, Ohio, has full charge. Shaft opening 225 feet deep, into the No. 1 seam of coal, which is 3 to 4 feet thick; is ventilated by fans; worked on the double entry system; has mule and motor haulage. Employs 5 pick miners, 6 machine runners, 58 loaders, and 47 day men. Five visits made during the year.

Feb. 20th. Found ventilation deficient in No. 1 room on first left on the north side, ordered conditions improved at once. Tested safety catches and found they would not work on west cage; left orders that no men be allowed to ride up or down on west cage until repaired. Ordered miners to provide themselves with wooden boxes, at once.

July 9th. Mine suspended, no inspection made.

July 24. Visited in company with J. C. Davies, assistant chief deputy, to investigate second travel way and airways. Found the escape way in very bad condition; orders were left that escape way would have to be put in proper condition for men to travel before mine should be put in operation.

Sept. 23d, *Oct.* 23d, and *Dec.* 16. Found mine was not in operation.

Strong.

Located near Atwater, Ohio. Operated by W. A. Strong, Atwater, Ohio. Mine worked out and abandoned during the early part of the year.

STARK COUNTY.

Pocock No. 4.

Located near West Brookfield, O., on the W. & L. E. R. R. Owned and operated by Pocock Coal Company, Massillon, O. Wm. Kutz, Massillon, O., has full charge. Shaft opening, 208 ft. deep, into the No. 1 seam of coal, which is 5 ft. thick; worked on the double entry system, has fan ventilation and mule haulage. Employs 14 pick miners, 16 machine men, 70 loaders, and 29 day men. Six visits.

Feb. 6th. Found stairways being put in the second opening which would be completed the following day, tested scales and found them accurate. Found No. 7 and No. 8 rooms off of second southeast butt advancing towards the old abandoned works of the Foltz mine, and as there is no map showing the excavation of the old mine, Mr. Kutz and myself thought it safer to advance the No. 7 and No. 8 rooms with a double shift, and have test holes drilled ahead of rooms.

March 18th. Tested safety catches; found them in good order and mine in good condition.

May 29th. Visited with Assist. Chief Deputy J. C. Davies; conditions were very satisfactory.

Sept. 1st. Found several improvements made, fan had been installed and the second travel way cross-timbered and put in first class condition.

Sept. 30th. Investigated the southeast entries that were approaching the abandoned Foltz mine; found test holes being drilled ahead, and being approached with care; tested scales by request of the mine superintendent, found them inaccurate on first test, and upon making an examination, found that a very poor piece of work had been done in putting scales together; ordered several changes made, which was done after working hours; after the several changes were made, tested them again and found them to be accurate and a big improvement had been made to scales.

Nov. 17th. Found them taking up 18 feet of bottom in second East butt to improve main haulageway; timbering was being well done overhead and conditions of mine found very gratifying.

Massillon City No. 5.

Located near Pigeon Run, O., on the B. & O. R. R. Operated by the Massillon City Coal Company, Massillon, O. Wm. Pennman, Jr., Massillon, O., has full charge. Shaft opening 215 ft. deep, into the No. 1 seam of coal, 5 ft. thick; worked on the double entry system; has fan ventilation; mule haulage; employs 40 pick miners and 16 day men.

Jan. 28th. Conditions fairly good.

March 19th. Not in operation; inspected the escape shaft and found it frozen shut; orders left that mine should not be put in operation until the ice was taken out of the escapeway. Also found my former orders in regard to putting in speaking tubes, had not been complied with. Ordered this to be done in 10 days' time. I was requested to test the retail scales, which I found inaccurate due to not having the proper attention; ordered scales put in accurate condition at once.

May 28th-Aug. 11th. Conditions approved.

Oct. 8th. Called to mine by miners to test scales; found scales accurate; conditions throughout mine very satisfactory.

Dec. 28th. Found the pillars being removed very fast with the intention of abandoning mine in near future, with some very poor roof to contend with. Noted that plenty of good timbers was being used, and the pillars were taken out very clean.

Elm Run No. 11.

Located five miles west of Massillon, O., on a branch of the W. & L. E. R. R. Owned and operated by the Massillon Elm Run Coal Co., Cleveland, O. Philip Sonnhalter, Massillon, O., Supt.; M. Davis, Massillon, O., mine foreman. Shaft opening 165 ft. deep, into the No. 1 seam of coal, 4 ft. thick; fan ventilation; worked on the double entry system; employs 24 pick miners and 16 day men.

Feb. 11th. Found mine retreating and with natural conditions to contend with, mine was in fair good condition. Mine was abandoned in March.

Elm Run No. 12.

Located near North Lawrence, O., on the W. & L. E. R. R. Operated by the same company as No. 11. Philip Sonnhalter, Massillon, O., Supt.; Alex Watts, Massillon, O., mine foreman. Shaft opening 172 feet deep, into the No. 1 seam of coal, which is 5 feet thick; worked on the double entry system; fan ventilation; mule haulage; employees 63 pick miners and 22 day men.

Feb. 10th. Found mine in good condition; tested scales, found them accurate.

Aug. 28th. Found ventilation deficient in the 1st and 2d north faces, found men at work making a break-through; this would improve conditions in this part of the mine; aside from this mine was in good order.

Oct. 20th. Investigated fatal accident to John Kirk, who was killed by a fall of coal.

Nov. 10th. Found mine in a general way in good condition. Tested safety catches and found them in good working order.

Fox No. 12.

Located near Navarre, O., on the W. & L. E. R. R. Operated by the Massillon Coal Mining Company, Massillon, O. Hugh Patterson, Massillon, O., Supt.; Sam. Jenkins, Massillon, O., mine foreman. Shaft 200 feet deep into No. 1 seam of coal, which is 5 feet thick; pillar work has been the principal work all the year; has fan ventilation and mule haulage. Employs 70 pick miners and 36 day men. Six visits during the year.

Jan. 21st. Cautioned the miners relative to the use of carbide lamps, aside from this conditions were good.

Feb. 28th. Investigated fatal accident to Anthony Paudla, who was run over by his machine.

March 16th-17th. Mine in good order except the west cage, found the catches would not work, ordered new springs put on, and no men be permitted to ride on cage until put in safe condition.

May 4th. Investigated accident which befell Sam. Jenkins, mine foreman, and Peter Heimbuch, who were injured by a fall of slate.

Aug. 17th. I found that an agreement was reached on wage scale and 15 men were put to work taking down loose stones and timbering. Conditions fair.

Sept. 29th. Ventilation found deficient in the first west on south side, owing to a check door being taken down in D. Price's room; ordered door put up again and break-through inside of door cleaned out in 2 days.

Nov. 16th. Found miners not complying with carbide restrictions; conditions were very unsatisfactory. It became necessary to stop the use of carbide lamps in this mine with a time limit of 2 days with which to provide themselves with oil lamps; ordered stone taken down in P. Gorous's place and more timbers to be put up at once.

No. 24.

Located near Pigeon Run, O., on the B. & O. R.R. Operated by the same company as No. 12. Hugh Patterson, Massillon, O., Supt.; Wm. Whalen, Massillon, O., mine foreman. Shaft opening 192 feet deep, No. 1 seam of coal, which is 5 feet thick; fan ventilation; worked on the double entry system; mule haulage. Employs 6 machine runners, 45 loaders and 22 day men.

Feb. 12th, *May* 27th. Conditions found satisfactory.

July 22d. Found that a rock entry had been started, which would have to go about 500 feet to reach a pocket of coal. Conditions good.

Sept. 22d. Found David Price, of Justus, O., has been made mine foreman in place of Wm. Whalen, who is now in charge of No. 27 mine. Found that rock entry had reached the coal. A new escapeway has been started which is down 70 feet.

Nov. 9th. Found the additional opening finished; tested safety catches and found they would not work on the west cage; ordered new springs put on and no men to ride on cage until repaired. Ordered door put up at first left butt in 5 days.

Dec. 28th. Not in operation. Conditions were very satisfactory.

Bashford No. 26.

Located seven miles south west of Massillon, O., on the W. & L. E. R. R. Owned and operated by the same company as No. 12 and No. 24, with Hugh Patterson, Massillon, O., Supt.; Joe Reese, Dalton, O., route No. 2, mine foreman. Slope opening 250 feet in length into the No. 1 seam of coal, which is 4 ft. thick at this point; exhaust steam as a mode of ventilation. Employs 14 men, which are all day men at this time.

Sept. 2d. Found they were down 130 feet, with conditions good.

Nov. 5th. Found they were about to reach the coal, and had started the second opening, which was down 30 feet with 65 feet to go; conditions satisfactory.

No. 27.

Located six miles southwest of Massillon, O., on a branch of the B. & O. R. R. Operated by the same company as No. 12, No. 24 and No. 26. Hugh Patterson, Massillon, O., Supt.; Wm. Whalen, Massillon, O., mine foreman. Shaft 200 feet deep, into the No. 1 seam of coal; exhaust steam as a mode of ventilation; working on the double entry system. Employs 21 day men at this time.

Sept. 2d. Found this to be a new mine. They had reached the depth of 130 feet with conditions satisfactory.

Nov. 4th. Found shaft had been put down to the coal and men were making the bottom. Conditions were good.

Dec. 29th. Found men engaged putting in speaking tube and timbering the bottom. Also found them getting ready for the second opening which would be started in a short time. On each visit found improvements being made as soon as circumstances would permit.

Whitacre No. 5.

Located near Waynesburg, O., on the Penna. R. R. Operated by the Whitacre Fire Proofing Co., Waynesburg, O. Joseph Milner, Waynesburg, O., has full charge. Drift into the No. 5 seam, clay 4 ft.; coal 3 ft.; fan ventilation;

worked on the double entry system. Employs 7 pick miners and 3 day men. Four visits: Jan. 15th, March 26th, Sept. 10th and Nov. 25th. On each visit conditions were gratifying.

Whitacre No. 6.

Located near No. 5 on Penna. R. R. Operated by same company as No. 5, with the same management. Drift opening into No. 6 seam, coal 3, clay 6 ft.; fan ventilation; worked with double entry; has motor and mule haulage. Employs 37 miners and 18 day men.

Jan. 15th. Found Doer and Smith entry too far ahead of air; ordered it stopped until break-through could be made; ordered a marker put on rear end of motor trip.

March 26th, Sept. 10th and Nov. 25th. Condition found very satisfactory.

N. F. P. No. 1.

Located near Osnaburg, O., on the W. & L. E. R. R. Operated by the National Fire Proofing Co., Canton, O. Daniel Plotner, Osnaburg, O., has full charge. Drift opening into No. 6 seam of coal; natural ventilation; worked on the double entry system. Employs 8 miners and 2 day men.

Feb. 5th. Found pillars being removed and mine in fairly good order.

Dec. 1st. Found conditions fair.

N. F. P. No. 2.

Located near Waynesburg, O., on Penna. R. R. Operated by the same company as No. 1, with Ira Pence, Waynesburg, O., Supt.; Wm. Speece, Waynesburg, O., mine foreman. Slope opening 250 ft. in length, into No. 5 seam, coal 3, clay, 6 ft.; fan ventilation; worked with double entry; mule haulage. Employs 12 miners and 8 day men.

Jan. 16th. Ventilation deficient throughout mine, owing to airways not kept in proper condition; ordered break-through made larger on main outlet and canvas put up at mouth of first south face, and stopping at bottom of slope to be repaired. Ordered ice taken out of air shaft at once.

March 25th. Former orders complied with and mine in better condition, but found that the second travel way was in bad shape; ordered an additional opening made in 30 days.

May 6th., Sept. 9th. Found additional opening had been made and conditions very much improved.

Nov. 24th. Found some of the workings retreating, with the intention of abandoning mine in the near future.

N. F. P. No. 3.

Located near Osnaburg, O., on the W. & L. E. R. R. Operated by the same company as No. 1 and No. 2. Abandoned early in the year.

A. & C.

Located near Howenstine, O., on the B. & O. R. R. Operated by the A. & C. Lime Company, Canton, O. Rudolph Frank, North Industry, O., has full charge. Drift opening into No. 4 seam, coal 4 ft., limestone 3 ft.; furnace ventilation; worked on the double entry system; mule haulage. Employs 25 miners and 8 day men.

Jan. 12th. Found miners not provided with wooden boxes as law requires; ordered miners to get boxes at once and door put up in cross-over on 1st and 2d right.

March 4th. Condition fair.

March 11th. Investigated a serious accident which proved fatal to Nobel Irwin, due to trying to crowd a charge of powder back in coal hole, with sharp end of churn drill.

April 22d. Found air deficient in James room; ordered break-through made at once.

June 24th. Found men working in limestone rooms, were very careless in timbering their places; ordered No. 1 room on first right stopped at once; ordered more timbers in No. 2, No. 3 and No. 5 rooms on 1st right.

Sept. 8th. Found that a squeeze had taken place on the 1st and 2d rights, starting at No. 8 room and extending across to No. 14 room; preparation being made to drive through.

Oct. 27th. Found where it became necessary to fire a shot at mid-day miners were using fuse, which is a very dangerous practice and not in compliance with solid shooting restrictions. Ordered all shots fired through the day, must be fired with squib or battery.

Nov. 27th. Visited mine accompanied by Assist. Chief Deputy Davies for the purpose of adopting some rules in regard to handling of dynamite, as the lawful amount would not supply them for a day.

Milton.

Located near Howenstine, O., on the B. & O. R. R. Operated by the Milton Coal & Lime Company, Canton, O. Albert Dine, North Industry, O., has full charge. Drift into the No. 4 seam, which is 4 ft. thick; worked on the double entry system, with furnace ventilation and mule haulage. Employs 40 miners and 10 day men.

Jan. 13th. Ordered door put on last cross-over on 3d and 4th right; aside from this, mine was in good order.

March 3d. Ordered door put up on face entry inside of 4th left.

April 22d. Mine in good order.

June 24th. Ordered curtain put up on main entry inside of No. 6 room.

July 23d. Visited mine with J. C. Davies, Assistant Chief Deputy, for the purpose of adopting rules governing solid shooting.

Oct. 27th. Mine found in very good order.

Fox Run.

Located near North Industry, O., on the B. & O. R. R. Owned and operated by the North Industry Mineral Company, North Industry, O. W. M. Lehmler, North Industry, O., has full charge. Drift opening into No. 4 seam, which is 5 feet thick; worked on the double entry system, with fan ventilation; has mule haulage. Employs 17 miners and 4 day men.

March 2d. Found miners not provided with wooden boxes as law requires; ordered same procured at once.

May 14th. Found former orders complied with and mine in fairly good order. Mine was suspended the last part of the year.

Pike Run No. 1.

Located near Howenstine, O., on the B. & O. R. R. Owned and operated by O. C. Barber Mining & Fertilizer Company, Canton, O. C. M. Miller, Howenstine, O., Supt.; John Dieringer, North Industry, O., mine foreman. Drift opening into No. 4 seam, coal 2 feet, limestone 4 feet.; has furnace ventilation; worked with single entry. Employs 11 miners and 4 day men.

March 5th. Found no escape way provided which was ordered made.

May 13th. Found escape way had not been completed, granted an extension of 30 days in which to complete it. Ordered company to procure blankets and stretcher.

Sept. 14th. Found conditions very unsatisfactory; ventilation poor owing to the stack on the furnace shaft being in bad shape; ordered same put in good order in 3 days. Ordered break-throughs made at the face of last 3 rooms in niger entry in 7 days.

Nov. 2d. Found mine suspended until the first of January.

Pike Run No. 2.

Located near No. 1, on the same railroad. Owned and controlled by the same management as No. 1. Drift opening into No. 4 seam; coal 3 feet, limestone 2 feet; has natural ventilation; mule haulage. Employs 10 day men at this time, this being a new mine, made five visits.

March 5th. Ordered second opening made.

May 13th. Found second opening had been started but no men working in it on this date; the air was very poor in the main opening; ordered it stopped until air shaft was put down, and battery to be used in firing shots in air shaft.

June 23d. Found air shaft down, and mine in fairly good shape.

Sept. 14th. Ordered a magazine built away from the mine in which to keep their explosives; aside from this, conditions were fair.

Nov. 2d. Found the former orders complied with, and mine in good order.

Canton Sparta Clay.

Near Sparta, Ohio, on the B. & O. R. R. Operated by the Canton Sparta Clay Co., Mineral City, Ohio. James Hutchinson, Sandyville, Ohio, has full charge. Drift opening into a clay seam 6 feet thick; has furnace ventilation. Employs 8 to 10 men.

March 27th and *Dec.* 15th. Mine found in very good condition.

Sippo No. 2.

Located near North Lawrence, Ohio. Operated by the Everhart Sand & Brick Co., Massillon, Ohio. Mine abandoned early in the year.

Everhart No. 3.

Located at Massillon, Ohio, on the Penna. R. R. Operated by the same company as Sippo No. 2, with John Yast, Massillon, Ohio, in full charge. Shaft opening, 71 feet deep into No. 2 seam of clay, which is 6 ft. thick; worked on double entry system; has fan ventilation. Employs 12 day men.

Feb. 3d. Ordered speaking tube put in shaft, and signal bell put on top and at bottom of shaft.

Mar. 20th. Found former orders complied with, and mine in good order.

June 16th. Fan installed, and stairways put in the escape-way; conditions approved.

Sept. 25th. Mine in first class condition.

Summit Hill.

Near Greentown, Ohio, on the B. & O. R. R. Operated by Mrs. L. E. Smith, Greentown, Ohio. Henry Traxler, Altman, Ohio, Supt.; Otto Domro, McDonsville, Ohio, mine foreman. Drift opening into No. 4 seam of coal, 5 ft. thick;

has furnace ventilation; worked on the double entry system; mule haulage. Employs 8 miners and 4 day men. Five visits made.

Feb. 4th. With natural conditions to contend with, mine was in fair order.

May 5th. Found main opening in bad shape, owing to the timber being decayed, and furnace in the second opening, which could not be designated or used as the escape-way. Found the ventilation deficient throughout the mine, owing to break-throughs not being looked after. It became necessary to stop the mine from operating until it was put in compliance with the law.

May 21st. Called to mine to see the improvements which had been made; found additional opening made for the escape-way completed, and in general way mine was put in good order for operation.

Sept. 18th. Visited mine to secure sample of oil they were using.

Oct. 26th. Found mine in good order.

H. B. Camp No. 3.

Located near Altman, Ohio, on the B. & O. R. R. Owned by H. B. Camp Co., Altman, Ohio. Jacob Barnhart, Altman, Ohio, has full charge. Drift opening into the No. 1 seam of clay, which is 10 feet thick; has natural ventilation. Employs 17 miners and 3 day men. Two visits.

Feb. 4th and May 5th. Both visits found mine in good order. Mine was suspended the latter part of the year.

Willow Grove.

Located near West Brookfield, Ohio, on the N. O. T. line. Operated by the Willow Grove Coal Company, Massillon, Ohio. C. F. Smith, Massillon, Ohio, has full charge. Shaft 147 feet deep into the No. 1 seam of coal, which is 3 ft. thick; fan ventilation; worked with double entry; has mule haulage. Employs 10 miners and 3 day men.

Feb. 9th. Ordered indicator put on hoisting engine, and blankets and stretcher provided at mine; aside from this, conditions were good.

July 8th and Aug. 31st. Found orders complied with; ventilation found poor in 4th and 5th rooms on west butt. Ordered break-through made.

Oct. 29th. Ventilation deficient in Greeder and in Geo. Borell rooms; ordered break-through made in 5 days.

Nov. 11th. Investigated fatal accident to Wm. Greeter, who was killed in his room by a fall of stone November 10th.

Dec. 30th. Ventilation poor in Hauser and in Groshon room; ordered break-throughs made, and all old break-throughs closed up in 10 days. Tested safety catches and found them in good working order.

Massillon City B.

Located near West Brookfield, Ohio, Retail mine. Owned and operated by Heinzer and Radle, Massillon, Ohio, Route No. 1. Joseph Heinzer, Massillon, Ohio, Route No. 1, has full charge. Shaft 77 feet deep in No. 1 seam of coal, which is 3 to 4 ft. thick; fan ventilation; worked on the double entry system; has mule haulage. Employs 10 miners and 3 day men.

Feb. 9th. Ventilation poor in the Siffrin room; stopped same until air could be brought up to the face.

May 20th. Conditions fair.

Sept. 11th. Ventilation deficient at face of workings, owing to fan not running for want of repairs; ordered fan put in operation in 2 days; door put up on main south in 5 days.

Nov. 18th. Orders complied with, and mine in better condition.

Urban Hill.

Located near North Lawrence, Ohio, on the Penna. R. R. Operated by Urban Hill Coal Co., North Lawrence, Ohio. J. H. Longworth, North Lawrence, Ohio, has full charge. Slope 100 feet in length into the No. 1 seam of coal, which is 4 ft. thick; has fan ventilation; mule haulage. Employs 8 miners and 3 day men.

June 15th. Found them pumping water out of mine which had been flooded April, 1913.

Sept. 21st. Found water had been pumped out, and the mine in operation; air not as good as it should be at face of workings; ordered door repaired and curtain put up at N. Hoffman place.

Nov. 6th. Found the pillars being removed with conditions fairly good.

North Berlin.

Located near New Berlin, Ohio, on the N. O. T. line. Operated by G. F. Smith, New Berlin, Ohio. G. F. Smith has full charge. Shaft 40 feet deep into No. 4 seam, 5 ft. thick; furnace ventilation; mule haulage. Employs 8 miners and 3 day men. Three visits.

Feb. 16th, June 30th and Sept. 24th. Conditions found satisfactory on each visit.

Edgefield.

Located near Canton, Ohio, on the N. O. T. line, Retail mine. Operated by the Edgefield Coal Company, Canton, Ohio. John Wynn, Canton, Ohio, is Supt.; Ed. Wynn, Canton, Ohio, mine foreman. Slope 250 feet in length, into the No. 4 seam of coal, 5 ft. thick; fan ventilation; worked on the double entry system; has mule haulage. Employs 2 machine runners, 13 loaders, and 3 day men.

Feb. 24th. Found ventilation deficient in No. 8, 9 and 10 rooms; ordered break-throughs made at once, and ice taken out of bottom of air shaft.

June 25th, Sept. 18th, and Dec. 18th. Conditions found very satisfactory.

Sonnhalter No. 1.

Located near Canton, Ohio, Retail mine. Operated by A. F. Sonnhalter Coal Company, Canton, Ohio. A. F. Sonnhalter, Canton, Ohio, has full charge. Shaft 60 ft. deep, into No. 4 seam, which is 5 ft. thick; fan ventilation; worked with double entry; has mule haulage. Employs 2 machine runners, 14 loaders and 5 day men.

Feb. 24th, June 25th. Mine in good order.

Aug. 24th. Investigated a fire which destroyed the tipple and outside buildings; fire occurred August 17th, loss estimated at \$4,000; preparations were being made to rebuild.

Oct. 30th. Found tipple and outside buildings rebuilt, and installing electric hoist; mine would be ready to operate in about 15 days.

Dec. 22d. Found mine in operation, with new equipment in satisfactory condition.

Bickel.

Located at Justus, Ohio. Operated by Bickel & Weisgarber, Massillon, Ohio, Route No. 5. Frank Bickel, Navarre, Ohio, Route No. 3, has full charge. Drift into No. 5 seam of coal, 4 ft. thick; natural ventilation; mule haulage. Employs 10 miners and 2 day men. Three visits.

July 15th, Oct. 2d, and Dec. 24th. This being a new mine, found improvements being made on each visit, with second opening made as ordered.

McGinty.

Situated near Louisville, O., on the Penna. R. R. Operated by the Louisville Brick & Tile Company, Louisville, O. Frank Duplin, Louisville, O., has full charge. Drift opening into No. 6 seam of coal and clay, coal 3 ft. and clay 6 ft. thick; has furnace ventilation; mule haulage. Employs 16 miners and 14 day men. Three visits during the year.

Feb. 17th. Found No. 8 entry which was stopped on my former visit owing to its being in an unsafe condition, was suspended indefinitely. Ordered old timbers that were in bad shape on main haulage way to be replaced with new ones.

May 15th. Found squeeze had taken place in side of No. 5 room; ordered main entry fenced off at No. 5 room so as to prevent persons from entering; ordered more timbers put in No. 1 room off of No. 7 entry.

Oct. 5th. Found conditions fair.

Keim No. 2.

Located near Mapelton, O., on the W. & L. E. R. R. Owned and operated by the Kime Brick & Tile Company, Louisville, O. George Hoover, Osnaburg, O., Supt.; Norman Rice, Osnaburg, O., mine foreman. Drift opening into No. 6 seam, which is 3 ft. thick; has furnace ventilation; worked with double entry. Employs 7 miners and 3 day men.

March 31st. Conditions very unsatisfactory owing to mine having but one escapeway; also found a gasoline pump placed in break-through on main inlet, and 50 gallons of gasoline in tank on the main haulage way; had this taken out of mine at once which was a great relief to myself and to the miners, who were in the mine. I was very lenient in this matter, owing to its being my first visit to mine. Left special orders for a concrete stopping to be put at once between the main inlet and gasoline pump and all fumes carried to the return airway direct; and second opening made for the escapeway in 60 days. Ordered all miners to procure wooden boxes at once.

June 22d. Found my former orders had been complied with and mine in an improved condition.

Dec. 1st. Found loose stones on the main haulageway and ordered them looked after at once.

Hale.

Located near Osnaburg, O. Retail mine. Operated by Albert Hale, Osnaburg, O. Drift opening into No. 6 seam; has natural ventilation. Employs 8 to 10 men. Two visits.

Feb. 5th-Nov. 23d. Conditions fair.

Cooper.

Retail mine. Located near Magnolia, O. Operated by Gottshall & Gottshall, Magnolia, O. S. E. Gottshall, Magnolia, O., has full charge. Drift opening into No. 5 seam, which is 3 ft. thick; has furnace ventilation and mule haulage. Employs 8 to 10 men. Two visits made.

May 6th. Found mine without an escapeway. Ordered escape made at once.

Nov. 24th. Found the escapeway made and mine in good condition.

Tunnel.

Located near Osnaburg, O., on the W. & L. E. R. R. Owned by the Kester Coal Company, Osnaburg, O. Operated by Erven Shreffler, Canton, O., Route No. 4. Drift opening into the No. 6 seam of coal, which is 3 to 4 ft. thick;

has furnace ventilation; mule haulage. Employs 8 miners and 2 day men. Two visits.

May 22d. Found air poor at the face of workings, owing to break-throughs not having the proper attention; ordered break-throughs looked after at once.

Dec. 4th. Found mine in better condition than on former visit, except that a door was needed on main entry, outside of air shaft; ordered same put in 4 days.

Indian Run.

Remained suspended throughout the year.

Lehmiller No. 1.

Located near Waco, O. Retail mine. Operated by J. G. Lehmiller, Canton, O., Route No. 5, who has full charge. Drift opening into the No. 5 seam, which is 3 ft. thick; furnace ventilation; mule haulage. Employs 8 miners and 2 day men. Two inspections made.

Feb. 27th and July 2d. Found mine in a general way in fair condition.

SMALL MINES EMPLOYING LESS THAN TEN MEN.

Hipp.

Located near Newman, O., on the Penna. R. R. Owned by the Massillon Stone & Fire Brick Company, Massillon, O. R. T. Hipp has full charge. Drift opening into a clay seam, 5 ft. thick; has furnace ventilation. Employs 4 to 6 men.

March 9th. Found in good condition.

Newman.

Located near North Lawrence, O., on the Penna. R. R. Operated by the Newman Coal Company, Massillon, O., Route No. 2. J. D. Evans, Massillon, O., Route No. 2, has full charge. Slope 125 ft. in length into No. 1 seam of coal; exhaust steam is the mode of ventilation. Employs 4 miners and 2 day men.

Jan. 2d. Removing pillars with conditions fairly good.

June 15th and Nov. 6th. Both these visits found mine in fairly good order.

New Minglewood.

Situated near North Lawrence, O. Operated by the New Minglewood Coal Company, North Lawrence, O. Arthur Dawson, North Lawrence, O., has full charge. Slope opening 170 ft. in length, into the No. 1 seam of coal, which is 4 ft. thick; exhaust steam as a mode of ventilation; worked on the double entry system.

July 13th-Sept. 21st. Found with this being a new mine, that improvements were being made as soon as circumstances would permit.

B. B.

Located near Canal Fulton, O. Operated by B. B. Coal Company, Canal Fulton, O. W. Blank, Canal Fulton, O., has full charge. Slope opening 165 feet in length, into the No. 1 seam of coal, which is 3 to 4 feet thick; ventilated by exhaust steam; has mule haulage. Employs 6 miners and 2 day men.

Jan. 20th. Found stoppings were in bad shape; ordered them repaired at once.

Sept. 3d. Found that coal was being worked with a very poor roof and the men were posting with care.

Fisher.

Located near Justus, O. Operated by Thomas Savage, Justus, O. Drift opening, No. 3 seam of coal, 2 to 3 feet thick. Employs 4 men. Visited July 15th, Oct. 2d and Dec. 23d. On these visits conditions were fairly good.

Stark.

Located near Osnaburg, O. Operated by the Stark Brick Company, Canton, O. Harry E. Ryan, Osnaburg, O., has full charge. Drift opening into No. 6 seam, coal 3 feet, clay 6 feet. Employs 4 to 6 men. Feb. 5th and Nov. 23d, found mine in good order.

Thomas.

Operated by Thomas Bros., East Sparta, O. Drift opening into the No. 4 seam of coal, coal 4 feet, limestone 2 feet thick. Employs 4 men. One visit. Jan. 14th, found in fair shape.

Kaler.

Located at Beach City, O. Operated by N. Riester, Beach City, O. Drift opening into No. 3 seam, 3 feet thick. Employs 6 to 8 men. Feb. 26th requested a map made the latter part of the year.

Wise Bros.

Near Waco, O. Owned by Wise Bros., Canton, O. Operated by Hugh Diehl, Canton, O., Route No. 5. Slope 30 feet in length, into No. 4 seam of coal, 4 feet thick. Employs 4 men. Feb. 27th ordered doors put up in place of canvas.

Kienzle.

Operated by Chas. Kienzle, East Sparata, O. Drift into No. 6 seam. Visited May 7th, found 4 men employed.

Smith.

Located near Beach City, O. Operated by Harvey Barr, Beach City, O. Drift into the No. 5 seam of coal. Employs 4 men. May 8th, in fair shape.

Ely No. 2.

Located at Alliance, O. Operated by Ely Brothers, Alliance, O. Shaft opening 47 feet deep, into No. 3 seam of coal, 30 inches thick. Employes 6 to 8 men. Two visits. May 11th, found mine suspended. Sept. 4th, found mine in operation. Found no ladders in escape shaft; ordered ladders put in in 15 days. Mine was sold to J. H. Stuffel, Salem, Ohio, the latter part of year.

Gruber.

Operated by A. Grueber, North Industry, O. Drift into No. 6 seam of coal. May 12th, found 4 men employed. Condition fair.

W. M. Krumlauf.

Operated by W. M. Krumlauf, Osnaburg, O. Drift into No. 6 seam of coal, 3 feet thick. Employs 4 men. May 22d, mine in fair shape.

J. Krumlauf.

Near Robertsville, O. Operated by John Krumlauf, Robertsville, O. Drift opening in No. 6 coal. Employs 4 men. June 1st, found no second opening and mine in poor condition. Ordered mine not to operate until put in better condition.

Sausser No. 1.

Abandoned in the early part of year.

Sausser No. 2.

New mine. Operated by J. M. Sausser, Osnaburg, O., Route No. 2. Drift opening into No. 6 seam of coal, 4 feet thick. Employes 6 to 8 men. Two visits made. May 25th and Dec. 2d. Each visit found improvements made.

McClelland.

Located near Osnaburg, O., on a branch of the W. & L. E. R. R. Operated by Foster McClelland, Osnaburg, O., Route No. 2. Drift opening into the No. 6 seam of coal, which is 3 feet thick; has furnace ventilation; mule haulage. Employs 4 to 6 men. Two visits. May 25th, found escapeway provided as ordered. Dec. 4th, mine in fair shape.

Haubert.

Operated by Henry Haubert, Osnaburg, O. Drift into No. 6 seam of coal. Employs 3 men. June 1st, ordered second opening.

Bollinger.

Operated by Frank Bollinger, Osnaburg, O. Drift opening into the No. 6 seam. Employs 3 men. June 2d, ordered ladder in second opening.

Rice No. 2.

Operated by E. Rice, Louisville, O., Drift opening into No. 6 seam of coal. June 2d, found it to be a new opening, employing 3 men.

Eckinger.

Operated by W. H. Eskinger, Canton, O., Route No. 5. Drift opening into No. 5 seam of coal. Employs 3 men. June 3d, ordered escape provided.

Kramer.

Operated by Anthony Kramer, Canton, O., Route No. 5. Drift into No. 5 seam of coal. Employs 3 to 5 men. June 3d, in good order.

Yohe No. 3.

Operated by Otto Thouvenin, Canton, O., Route No. 5. Drift into No. 5 seam of coal. Employs 3 and 4 men. July 3d, ordered carbide lamps kept out of mine, and the old main entry to be fenced, so as to prevent persons from entering.

Yohe No. 4.

Operated by Charles H. Yohe, Canton, O., Route No. 5. Drift into No. 5 seam of coal. Employs 4 men. July 3d, in fair condition.

Geitgey.

Operated by A. A. Geitgey, North Industry, O. Drift opening into No. 4 seam of coal, and limestone. Employs 5 men. June 29th, found mine making preparations to operate. Sept. 17th, air very poor in mine; ordered stack built on furnace shaft in 5 days; door put up on main entry inside of first room and escape-way provided in 30 days.

Plaskett.

Operated by John Plaskett, North Industry, O. Drift opening into No. 6 seam of coal. Employs 4 men. No. 12th, found this to be a new opening; expected to start second opening in a few days.

Montague.

Operated by William Montague, North Industry, O., Route No. 1. Drift into No. 6 seam of coal. Employs 4 men. Nov. 12th, found mine in good order except no ladder in the escape way; ordered ladder put in, in five days.

Arntz.

Operated by Charley Arntz, North Industry, O. Drift opening into No. 6 seam of coal, which is 3 feet thick; has furnace ventilation; mule haulage. Employs 8 and 9 men. Nov. 12th, found ventilation poor in mine owing to doors not being put up when needed; ordered door to be put in second crossover on right, and door put up on third crossover to be done in 5 days. Ordered mine surveyed, and map filed in the next 60 days.

Sefert.

Located near Paris, O. Operated by H. H. Sefert, Paris, O. Drift into No. 6 seam of coal, 3 feet thick. Employs 6 men. November 13th, found this to be a new mine; found ventilation very poor owing to no air shaft being made. Ordered mine stopped until airshaft and escape-way were made, as law requires.

Plotner.

Owned by Daniel Plotner, Osnaburg, O. Operated by J. E. Rinehart, Osnaburg, O. Drift opening into No. 6 seam of coal. Employs 4 men. Dec. 2d, found mine operating without the second escape-way. Ordered escape-way made in 60 days.

Zuber.

Operated by John Zuber, Osnaburg, O. Drift opening into No. 6 seam of coal, 3 feet thick. Employs 6 to 8 men. Dec. 3d, found it to be a new mine with 50 feet to go, until the second opening would be made.

Garner.

Operated by H. R. Garner, Osnaburg, O. Route No. 2. Drift into No. 6 seam of coal. Employs 3 men. Dec. 3d, found in good condition.

Bixby.

Operated by Harvey Bixby, Canton, O., Route No. 4. Drift opening into No. 6 seam of coal. Dec. 3d, found in good order, with 4 men employed.

SUMMIT COUNTY.

Beechwood.

Located at Manchester, O., on the C. A. & C. R. R. Operated by the Beechwood Massillon Coal Company, Cleveland, O. Ed. Penman, Clinton, O., Route No. 36, has full charge. Shaft opening 150 feet deep into No. 1 seam of coal, 5 feet thick; has fan ventilation; motor and mule haulage. Employs 60 pick miners, 11 machine runners, 22 loaders and 37 day men. Five inspections made.

Jan. 19th and 20th. Ventilation deficient in No. 30 room off of 3d right; ordered room stopped until the air could be brought up to the face. Ordered shields put on both sides of machines at once; tested the scales, found them accurate.

March 6th. Found miners were not provided with copper tamping tools as law requires. Ordered the superintendent to have miners procure copper tamping tools at once; found hoisting ropes were getting in bad shape; ordered new ropes put on in 10 days.

Aug. 10th. Found mine in fairly good order considering the long idleness. Men were at work taking down loose stones and timbering.

Sept. 28th. Found that the machines were all taken out of mine and pillars were being removed by pick mining.

Nov. 20th. Found mine in general in very good condition.

Hill No. 1.

Located at Mogadore, O. Owned and operated by the Robinson Clay Product Company, Akron, O. Thomas Youtz, Mogadore, O., has full charge. Drift opening into a clay seam, 5 feet thick; furnace ventilation and mule haulage. Employs 8 miners and 4 day men. Three visits made.

Feb. 13th. Found no ladders in the escape-way; ordered ladders put in at once.

March 30th. Former orders had been complied with and mine in good order.

Dec. 14th. Found a very bad stone in No. 2 room neck, off of the No. 4 entry. Ordered it taken down at once; ordered door put up at mouth of first left entry in five days.

Hill No. 2.

Located near No. 1 on the W. & L. E. R. R. Operated by the same company as No. 1 with the same management. Drift opening into a clay seam, which is 5 feet thick; has natural ventilation; mule haulage.

Dec. 14th. Found this to be a new mine and driving through a fault at this time with prospects looking very good.

Wise.

Retail mine, located near Altman, O. Operated by Theodore Myers, New Berlin, O. Shaft opening into the No. 4 seam of coal which is 5 feet thick; has natural ventilation. Employs 9 miners and 2 day men.

July 1st. Found with natural conditions; mine was in fair order; ordered stretcher and blankets provided in 30 days.

Oct. 28th. Ventilation somewhat poor in the southeast entry owing to break-through not being through in the Baker room; break-through would be finished the next day which will improve conditions; aside from this, conditions were satisfactory.

Myers No. 26.**Batts.**

Operated by John Klum, Barberton, O. Drift into No. 1 seam of coal.
March 24th. Found 3 men employed.

Bartges.

Operated by Harvey Breitenstine, Barberton, O., Route No. 33. Drift opening, No. 1 seam.

March 24th. Ordered second opening made in 30 days.

Oct. 15th. Found with second opening completed; mine in good order.

Wathey.

Operated by S. G. Wathey, Barberton, O., Route No. 35. Drift opening, No. 1 seam. Employs 3 men.

Oct. 15th. Found it to be a new mine in fairly good condition.

Jones.

Operated by Hametown Coal Company, Barberton, O., Route No. 35. J. D. Jones, Barberton, O., route No. 35, has full charge. Slope opening into No. 1 seam of coal. Employs 6 to 8 men.

WAYNE COUNTY.

Oak Hill.

Located at West Lebanon, O., on the W. & L. E. R. R. Operated by the Massillon Oak Hill Coal Company, Massillon, O. John Howells, Massillon, O., is superintendent; Ralph Sutton, Massillon, O., mine foreman. Shaft opening, 125 feet deep, into the No. 1 seam of coal, 5 feet thick; worked on the double entry system; fan ventilation, mule haulage; employs 16 pick miners, 4 machine runners, 18 loaders and 18 day men.

Jan. 26th. Found rock tunnel which was being driven into a new territory of coal, would soon be completed; ordered ice taken out of air shaft; aside from this, conditions were approved.

March 11th. Tested safety catches and found in good working order.

May 26th. Inspected the outside equipment in company with the Assistant Chief, J. C. Davies; conditions found very satisfactory.

Aug. 25th. Additional opening, which was being made for the new territory of coal, was down 80 feet, with 28 feet to go, until it would be completed.

Oct. 1st. Escape-way finished with an approved stairway put in; found ventilation deficient in D. Jones Room and in the Hopper entry; ordered door put up on the main entry inside of double parting inside of 5 days, which would improve conditions in this part of the mine.

Nov. 30th. Found orders complied with and with natural conditions to contend with mine was found to be first-class.

No. 21.

Located near Dalton, O., on the W. & L. E. R. R. Operated by the Massillon Coal Mining Company, Massillon, O. Hugh Patterson, Massillon, O., is superintendent; John Pyne, Dalton, O., mine foreman. Shaft opening 157 feet deep into No. 1 seam of coal, 4 feet thick; worked with double entry; has fan ventilation; mule haulage. Employs 45 pick miners and 17 day men.

Feb. 21st. Found ventilation poor in the Jones and Howe rooms owing to the room on the right of them being caved; ordered both rooms stopped until the air could be brought up to the face of workings; aside from this, conditions were fair, with mine retreating. Later in the year, with but two months' work to finish mine, the outside equipment was destroyed by fire and the mine was then abandoned.

No. 22.

Located three miles south of Dalton, O., on the W. & L. E. R. R. Owned and operated by the same company as No. 21, the same supervision, with Joe Reese, Dalton, O., mine foreman. Shaft opening 212 feet deep, into the No. 1 seam of coal, 5 feet thick; has fan ventilation; mule haulage. Employs 18 pick miners, 2 machine runners, 9 loaders and 15 day men.

Feb. 2nd. Found pillars were being cut by machines and at times were compelled to work inside of machine while it was cutting; considered this a very dangerous method owing to the noise a machine would make; when a squeeze is on a pillar miners depend mostly on their hearing for their own safety and this method deprived them of hearing any danger. Ordered that no men should be permitted to work in advance of machine while it was cutting. Tested the scales and found them to be accurate. Mine was abandoned in March.

No. 23.

Located near No. 22, on the same railroad. Operated by the same company as Nos. 21, 22, under the same supervision, with Anthony Owens of Dalton, O., mine foreman. Shaft 120 feet deep, into the No. 1 seam of coal, 3 to 4 feet thick; has fan ventilation; mule haulage. Employs 6 pick miners, 8 machine runners, 20 loaders and 19 day men.

Feb. 2d. Found No. 1 entry very dusty and ordered it sprinkled twice a week and all the bug dust to be loaded out. Tested scales, found them weighing accurate.

Aug. 26th. Found John Ryne, Dalton, O., in charge as mine foreman; ventilation deficient in No. 1 room on first East butt; stopped room until air could be brought up to face.

Oct. 21st and Dec. 31st. Found with all workings retreating; mine in fair condition.

No. 25.

Located at Dalton, O., on the W. & L. E. R. R. Owned by the same company as Nos. 21, 22 and 23. Under the same supervision, with James M. Bushman, E. Greenville, O., mine foreman. Shaft 100 feet deep, into the No. 1 seam of coal, 4 feet thick; has fan ventilation; mule haulage. Employs 10 machine runners, 37 loaders, and 18 day men. Four inspections made during the year.

Feb. 25th. Found mine had shut down until fall.

Aug. 27th. Found mine in operation again with several improvements made during the shut-down: a door was needed between the 3rd and 4th West butts which was ordered put up in 5 days; ordered map filed in 80 days.

Oct. 21st. Ventilation deficient in No. 2 on first west, and at the face of first butt; ordered break-throughs made in 5 days.

Dec. 31st. Mine idle; tested safety catches and found in good working order.

Myers No. 26.

Located seven miles southwest of Massillon, O. Owned and operated by the same company as Nos. 21, 22, 23 and 25. Under the same supervision, with Anthony Owens, Dalton, O., mine foreman. Slope opening, 600 feet in length, in to the No. 1 seam of coal.

Sept. 2nd. Found this to be a new opening, which was down 120 feet.

Nov. 5th. Slope had reached the depth of 400 feet and expected to reach the coal in about 30 days; found the outside equipment in satisfactory condition; 18 men employed at this time.

Redett No. 1.

Operated by A. W. Laughlin, Fredericksburg, O. Drift opening into No. 5 seam of coal, 3 feet thick; employs 4 men.

April 2d and Oct. 0th. Found conditions fairly good.

Redett No. 2.

Operated by Warren B. Ferris, Columbus, O. Jess Harding, Fredericksburg, O., is Superintendent; Ross Green, Fredericksburg, O., mine foreman. Drift opening, into the No. 5 seam of coal, 3 ft. thick; has natural ventilaiton; worked on the single entry system. Employs 8 to 10 men.

April 2d. Mine idle.

Oct. 9th. Ventilation very poor through the mine owing to break-through not having the proper attention; ordered a door put up on main entry outside of last room and all room-necks going north to be closed up with brattice in 10 days; also ordered miners to procure copper tamping tools in 10 days.

Hametown No. 2.

Located at Hametown, O. Operated by the Hametown Coal Company, Barberton, O., Route No. 35. J. D. Jones, Barberton, O., Route No. 35, has full charge. Slope opening 300 feet in length, into the No. 1 seam of coal, 4 ft. thick; exhaust steam as a mode of ventilation; mule haulage. Employs 14 miners and 7 day men.

Jan. 23rd. Found mine retreating with conditions good for pillar work.

March 23d. Found mine abandoned; ordered final map sent to the mining department at once.

Black Diamond.

Operated by Jeandrevine Bros., Mount Eaton, O., John Jeandrevine, Mount Eaton, O., has full charge. Shaft, 34 feet deep, into No. 7 seam of coal which is 3 feet thick; has natural ventilation. Employs 4 men.

April 29th. Found miners working in black damp with no mode of ventilation. Ordered miners out of mine at once and no men to enter same until air shaft was made and mine put in compliance with the law.

July 14th. Found former orders complied with and mine in satisfactory condition.

Maurer.

Operated by Alex Mauer, Mount Eaton, O. Drift into No. 7 coal. Employs 4 miners.

April 29th and July 14th. Found mine suspended.

Sunny Side.

Operated by Mart Vanburen Shoup, Dalton, O., Route No. 4. Shaft 42 feet deep, into No. 7 coal. Employs 4 men.

April 30th. Found but one opening; ordered mine stopped until the second opening was made as law requires.

Wingard.

Operated by John Wingard, Dalton, O., Route No. 4. Shaft 35 feet, into No. 7 coal. Employs 4 men.

April 30th. Found mine not operating.

HOLMES COUNTY.

Bowers.

Operated by R. W. Bowen, Millresburg, O. Drift opening into the No. 6 seam of coal. Employs 10 miners and 2 day men. Two visits made.

April 3d. Found mine not operating.

May 18th. Visited mine to see about installing a gasoline pump in mine. On this visit I found two men at work making a ditch which would give a natural drainage to mine. Owing to this condition it became unnecessary to install a gasoline pump.

Carter.

Operated by Isaac Carter, Millersburg, O. Drift opening into No. 6 seam of coal. Employs 4 men.

April 3d. Found some old timbers at the mouth of opening in bad shape; ordered new timbers put in.

Korns.

Operated by L. J. Korns, Millersburg, O., Route No. 6. Drift, opening into No. 6 coal. Employs 3 men.

May 18th. Found mine in general in bad condition; ordered mine stopped until escape-way was put in condition to travel.

Brooks.

Operated by L. J. Korns, Millersburg, O., Route No. 6. Drift, opening into No. 6 seam of coal. Employs 3 miners.

May 18th. Found in good condition.

Bird.

Operated by M. G. Bird, Millersburg, O., Route No. 6. Drift, opening into No. 3 seam of coal which is 3 feet thick; has natural ventilation, worked with a single entry. Employs 10 to 12 men.

May 19th. Found that an 8-inch drill hole was the only mode of ventilating the mine and but one opening for egress and ingress. Ordered mine stopped until a second opening was made as law requires.

Oct. 6th. Found former orders had been complied with and mine in first-class condition.

Wilant.

Operated by B. H. Martin, Millersburg, O., Route No. 6. Drift opening into No. 6 coal. Employs 5 miners.

May 19th. Oct. 6th. Ordered escapeway to be cleaned out in 10 days.

Mast.

Operated by A. A. Ackeret, Holmesville, O. Drift, into No. 6 coal. Employs 4 men.

May 1st. Found mine was not in operation.

Oct. 12th. Found mine retreating, with conditions fair, except that a few timbers needed to be changed at the mouth of opening which was ordered done in 15 days.

Smith.

Operated by C. R. Smith, Millersburg, O. Drift opening, No. 6 coal. Employs 4 miners.

May 1st. Found airway had become filled up with refuse; ordered it cleaned out at once; ordered more timbers put up in the Ott and Dager place at once.

Oct. 12th. Orders complied with and mine in fair shape.

Gindelberger.

Operated by W. Gindelberger, Millersburg, O., Route No. 4. Drift opening No. 6 coal. Employs 4 miners.

May 1st. Found mine not working.

Excelsior.

Operated by Alfred Hochstettler, Barr Mills, O., Route No. 1. Drift into No. 6 coal. Employs 4 miners.

July 20th. In fair condition.

Miller.

Operated by Oscar Miller, Dundee, O., R. No. 1. Drift opening, No. 6 coal. Employs 5 miners.

July 20th. Found no ladder in the second opening; ordered one put in, in 10 days; ordered break-through made between the first and second room and break-through between first and second East entry.

Scar.

Operated by John Dauwalter, sr., Dundee, O., Route No. 1. Drift opening, No. 6 coal; four men employed.

July 21st. Found that second opening had been started but not finished and no men working in it at this time. Ordered mine stopped until second opening could be completed.

Schmucker.

Operated by John Dauwalter, jr., Dundee, O., Route No. 1. Drift opening, No. 6 coal. Employs 3 men

Quillin.

Mine located near Killbuck, O. Owned by G. C. Quillin, Killbuck, O., Route No. 2. Operated by Louis R. Gallion, Millersburg, O., Route No. 8. Drift opening into No. 6 seam of coal which is 3 feet thick; has furnace ventilation and mule haulage. Employs 8 to 10 men.

Oct. 7th. Found ventilation poor at the face of workings owing to break-throughs not being looked after as should be. Ordered several breakthroughs to be closed up in 5 days and some new timbers put in at the mouth of the opening.

Hitchcock.

Operated by Joe. A. Hitchcock, Berlin, O. Drift opening into No. 6 seam of coal. Employs 3 and 4 men.

Oct. 13. Found mine in a fair condition except there was no ladder in the escape shaft. Ordered ladder put in, in 10 days.

Berlin.

Operated by John Maxwell, Berlin, O. Slope opening, 125 feet in length, into No. 6 seam of coal; ventilated by exhaust steam. Employs 6 to 8 men.

Oct. 13th. Conditions were fairly good.

EIGHTH DISTRICT

W. H. WERKER, INSPECTOR.

COMPOSED OF PORTIONS OF JEFFERSON AND HARRISON COUNTIES.

(733)

HON. J. M. ROAN, *Chief Deputy and Safety Commission of mines, Columbus, O.*

DEAR SIR:—In accordance with the laws of Ohio and the custom of the Mining department, I have the honor of submitting to you my annual report of the Eighth Mining District for the year commencing January 1st, 1914 and ending December 31st, 1914, inclusive.

My district comprises part of Jefferson and part of Harrison county.

The mining situation for the year 1914 has been as far as the No. 8 district is concerned, one of the worst in the history of the field with no prospects in sight as far as an early resumption of again operating the mines is concerned. During the first three months of the year the mines worked fairly well. On April 1st last the scale of wages expired and the joint conference of miners and operators having failed to agree on a scale of prices for the next two years, the mines closed down. The main factor which prevented a settlement was the attitude of the operators towards submitting to the demands of the miners for a scale of wages based on mine-run, or pay for all coal before screened. These demands of the miners were made in accordance with an act of the legislature passed at the early year's session and which became operative May 20th, 1914.

Many meetings were held for the purpose of agreeing on a scale but with no result. The general depression in the business and industrial world added greatly to the perplexing state of affairs and to the indifference to amicably adjust their wage disputes. While the Hocking, Guernsey and a few other districts have agreed on a scale of wages and started to resume operation, the eastern Ohio mines are still closed due to the failure of agreeing on a price per ton mine run coal. No hope for an early settlement is at hand. The clouds still look dark with no ray of sunshine to relieve the miserable and deplorable condition now existing in the mining towns of eastern Ohio.

Every large mine in my district has been closed since April 1st, except the Goucher at Brilliant, Brettell at Mingo Junction, La Belle and High Shaft at Steubenville. While both sides are determined to come out victorious in this battle so stubbornly and persistently fought, yet there seems to be absent that bitter feeling of hatred against each other which so often has led to riots, bloodshed and destroying of property in other strikes elsewhere. It has been one of the most peaceably conducted strikes known in the history of mining for their patiently waiting attitude for a solution of their differences and every one is earnestly hoping for the early resumption of work. It is to be regretted that no solution has been found to end this conflict, as it certainly has worked a hardship on the miner, the operator and the public as well. Prior to April 1st, the mines in my district, with the exception of a few, were in a reasonably good condition. This was due to the operators making every effort to avoid accidents, as the compensation law made it imperative to give safety first due consideration.

The tonnage produced for the year 1914 will be considerably less than the output of former years.

Due to the physical condition of the mines it will take months of continuous operations before the mines in general will attain their former output.

During the year I have made 180 inspections in my district, 4 in Belmont, I in Jackson and I in Perry county.

Also investigated six fatal accidents, five by fall of stone and one by mine car.

Thirty-six days were devoted to the plugging of 34 oil wells.

During the summer month I investigated this district for oil or gas wells that had been abandoned prior to the enactment of the law which makes it compulsory to seal off oil or gas wells when abandoned in coal producing counties.

In Jefferson county I located 418, and in Harrison county 192, or a total of 610 wells being abandoned without properly plugged.

It is very essential and necessary for the protection and interest of future coal mining, that these wells be mapped and a monument placed at each one.

Permanent improvements made during the year were: 3 furnaces, 1 fire basket, 2 fans, 9 shafts, 10 second openings, 4 additional openings and 6 stairways.

Large mines operating in my district are as follows: 37 in Jefferson and 6 in Harrison county; the smaller number 41 in Jefferson and 21 in Harrison county.

Two new coal territories are being developed by the stripping process where the strata overlying the coal is removed by a large steam shovel and a smaller one is operated to load the coal.

From a financial standpoint, these operations seem to be successful.

One large and 3 small mines were opened in Harrison and 10 small in Jefferson county. Two mines were abandoned, Rush Run No. 1 and Crow Hollow No. 3, both being worked out.

Scales tested during the year were 3, and found correct.

In conclusion I wish to say that my relations, with both miner and operator, with but few exceptions, have been of a pleasant character. I appreciate the many courtesies extended to me by the mining department, including the office force, and I extend my sincere thanks to you and Assistant Chief, J. C. Davies, for your valuable assistance and advice given to me in the discharge of my duties.

Respectfull submitted,

WM. H. WERKER,
Inspector Eighth District.

December 31st, 1914 .

JEFFERSON COUNTY.

Augusta.

Located on the W. & L. E. R. R., near Rayland, O. Operated by the Augusta Coal Co., Pittsburgh, Pa. Supt., C. H. Holliwell, Rayland, O. Also acts in the capacity as Mine boss. Mine has fan ventilation, motor and mule haulage.

March 11th. Found mine near working faces very wet due to water coming in from the old Kelley mine. Ordered 9 and 10 right entry timbered and entries drained.

March 31. Were abandoning 9 and 10 right entry due to a squeeze over these entries. This mine will not operate much longer as they are surrounded with old workings and their coal supply being limited; 6 cutters, 50 loaders and 18 day hands are employed.

Portland.

Located on the W. & L. E. R. R., near Connorsville, O. Operated by the Rayland Coal Co., Pittsburg, Pa. Supt., Hartley Jarvis, Tiltonville, O. Mine boss, Hugh Boyle Rayland. Fan ventilation; motor and mule haulage; machine mining.

Feb. 2d. Mine in good condition as many improvements had been made since former visit. Ten cutters, 87 loaders and 30 day hands are employed.

Connors No. 1.

• Located on the W. & L. E. R. R. at Connorsville, O. Operated by the W. & L. E. Coal Co., Cleveland, O. Supt., Fred Aspinwall, Mine Boss, James Buckman, both at Connorsville. Machine mining; fan ventilation; motor and mule haulage.

Jan. 6th. Condition in this mine had been very much improved since former visit, especially had there been much timbering done.

March 21. Mine found in good condition.

Nov. 16th. Considering that the mine had been idle since April last conditions were found very favorable for an immediate resumption of work if required; 16 cutters, 100 loaders, 32 day hands are employed.

Connors No. 2.

Located same place as No. 1 mine, as coal from both mines is dumped over same tippie. Owned by same company, also with same superintendent in charge; Winfield Stullenberg is mine boss. Also machine mining; motor haulage; fan ventilation.

Jan. 8th. General condition of this mine had also been greatly improved; found trace of gas in 9 left entry. A fire boss is employed.

March 30. Considerable blackdamp was found on south side of mine. Ordered it removed; otherwise mine was in good condition; 16 cutters, 115 loaders and 38 day hands are employed.

Dillon No. 2.

Located on the W. & L. E. R. R., at Dillonvale, O. The W. & L. E. Coal Company, operates this mine also. Geo. Chamberlain is Superintendent and Mine Boss, Dillonvale, O. Machine mining; motor and mule haulage; fan ventilation.

Feb. 20th. This mine is driven in a long way. Ventilation and drainage is well looked after, therefore mine is in good condition; 20 cutters, 125 loaders and 52 day hands are employed.

Herrick.

Located on the W. & L. E. R. R., at Herrick, O. Operated by W. & L. E. Coal Co. Joes. Bainbridge is both Superintendent and Mine Boss, located at Herrick, O. Machine mining; fan ventilation; motor and mule haulage.

Feb. 9th. New air course was completed. Ventilation greatly improved and general condition of mine was approved. This mine is one of the best equipped and kept mine in my district.

Dec. 30th. Considering the long period of idleness this mine is in a condition to resume operation on a day's notice; 18 cutters, 170 loaders, 22 day hands inside and 24 outside, are employed.

Edgar No. 1.

Located on the W. & L. E. R. R., two miles east of Dillonvale, O. Operated by the Glens Run Coal Co., Cleveland, O. Supt., J. D. Jones; Mine Boss, Henry Jack, both of Dillonvale, O. Machine mining; fan ventilation; motor and mule haulage.

Feb. 4th. Made partial inspection with J. C. Davies, then Chief Inspector. Much timbering had been done along motor road and general condition of mine had been much improved; 12 cutters, 104 loaders and 42 day hands are employed.

Edgar No. 2.

Located at same place as No. 1. Coal from both mines are dumped over same tipple. Same Superintendent, with Robt. Nicholson as mine boss. Fan ventilation; machine mining; motor and mule haulage.

Feb. 4th. Inspected this mine with J. C. Davies, then Chief Inspector. Second opening had been re-established and mine was found in good condition. 14 cutters, 114 loaders and 40 day hands were employed.

March 26th. Investigated fatal accident of Ludwick Dzezar, who was killed by a fall of stone at the face of his room.

Dunglen No. 1.

Located on W. & L. E. R. R., at Dunglen, O. Operated by the Morris Poston Coal Co., Cleveland, O. Fan ventilation; machine mining; motor used for gathering and haulage purpose. Supt., R. H. Thompson; Mine Boss, Ben Seggi, both of Dunglen, O.

March 2d. Found ventilation much improved at working faces; also additional timbering had been done. Found general condition of mine greatly improved; 16 cutters, 136 loaders and 33 day hands are employed.

Dunglen No. 2.

Located near No. 1 mine. Coal from both mines is dumped over same tipple. Operated by same company with same superintendent in charge. H. V. Cooley of Dunglen, is mine boss. Fan ventilation; machine mining; motor is used for gathering and haulage purpose.

Feb. 14th. This mine has a good roof, good drainage and good ventilation, and has been kept in fairly good condition at all times; 14 cutters, 138 loaders and 39 day hands are employed.

Crow Hollow No. 3.

Located on branch of the W. & L. E. R. R., at Bradley, O. Operated by the United States Coal Co., Cleveland, O. Supt., Wm. Merriman; Mine Boss, John Russin, both of Bradley, O. Fan ventilation; machine mining; motor and mule

haulage. This mine was drawing pillars and will soon be finished and abandoned. Mine had therefore been neglected and conditions were not the best; 2 cutters, 18 loaders and 4 day hands were employed.

Crow Hollow Nos. 5, 6.

Located at same place as No. 3, operated by same company and same superintendent is in charge. Coal mined, is dumped over same tippie. Ed Jones of Smithfield, is mine boss. Fan ventilation; machine mining; motor and mule haulage.

Jan. 20th. Ordered stoppings along main motor road to be built of non-combustible material. A squeeze on right entries No. 6 mine had shut off part of their working territory. This mine has been kept in a reasonably good condition at all times; 20 cutters, 152 loaders and 42 day hands are employed.

Crow Hollow Nos. 7, 8.

Owned and operated by the same company, with same superintendent in charge. Coal mined is also dumped over same tippie. Geo. Mihall is Mine boss, located at Bradley, O. Fan ventilation; machine mining; motor and mule haulage.

Jan. 26th. Water had broken in from the old workings and roadways were wet and muddy as a result. Ordered wiring repaired, trolley wire crossing roadway guarded and refuge holes cleaned and whitewashed; conditions needed improving; 12 cutters, 100 loaders and 31 day hands are employed.

Crow Hollow No. 9.

Located at same place. Same company, same superintendent, and coal is dumped over same tippie. Sam Hutchison, Mine boss. Machine mining; motor and mule haulage; fan ventilation.

Feb. 14. Ordered miners to cease work as air current was deficient and polluted with blackdamp. Agreed with management to reverse air current, to improve ventilation. Ordered man holes cleaned and whitewashed, also to put motor roadways in passable condition.

Feb. 16th. In company with Mr. Roy, Vice President of Sub-district 5, made a joint inspection. Ventilation had not improved much as stoppings along motor road were leaking, causing the blackdamp to diffuse with the air current. Mine had not been operated since my former visit. Stopped 22 and 23 left, due to no ventilation, also 17 and 18 right, until timbered. General conditions were bad ordered the necessary improvements to overcome this situation; 10 cutters, 57 loaders and 25 day hands are employed.

Somers No. 3.

Located on the W. & L. E. R. R., four miles west of Dillonvale, O. Operated by the Somers Coal Co., Cleveland, O. Supt Sam Cook; Mine Boss, Chas. F. Brick, both of Ramsey, O. Fan ventilation; machine mining; motor and mule haulage. This mine has always been found in the best condition. Motor road is dry, clean and well timbered. Special efforts have been made to make this a model mine; 16 cutters, 128 loaders and 32 day hands are employed.

Somers No. 4.

Located at same place as No. 3. Operated by same company. Coal mined is dumped over same tippie. Same superintendent is in charge, with Louis Moke as Mine boss. Fan ventilation; machine mining; motor and mule haulage.

March 27th. This has been the model mine in the district and always found in first-class condition; 16 cutters, 115 loaders and 40 day hands are employed.

Netta.

Located on the Wabash R. R., at Parlett, O. Operated by the Netta Coal Co., Cleveland, O. Supt., R. J. Bryan; Mine Boss, Andy Arrick, both of Parlett, Ohio. Fan ventilation; machine mining; motor and mule haulage.

March 18th. Many improvements have been made in this mine. A water course has been driven from the outside into 7 right entry for drainage; low places in main entry have been raised and motor road timbered. Ordered bottom of slope timbered and the law pertaining to the use of carbide lamps more strictly enforced; 8 pick miners, 6 cutters, 42 loaders and 26 day hands are employed.

Piney Fork No. 1.

Located on the L. E. A. & W. R. R., at Piney Fork, Ohio. Operated by the Jefferson Coal Co., of Cleveland, O. Supt., William Simpson, Mine Boss, Ben Hill, both of Piney Fork, Ohio. Fan ventilation; machine mining; motor and mule haulage.

Feb. 11th. Found mine in good condition. Safety bosses are employed to look after the safety of the miners. This company is doing everything possible to avoid accidents.

March 21st. Made inspection with J. C. Davis, J. M. Roan, William Moke, William Maloney, and David Thomas to consider new methods to be adopted for Eastern Ohio in the interest of safety.

Feb. 11th. Investigated fatal accident of Frank Evelana, a driver who was killed by being squeezed between car and rib while trying to get on hitchen between cars; 22 cutters, 12 pick miners, 171 loaders, 55 day hands employed.

Piney Fork No. 2.

Located same place as No. 1 mine, owned by same company. Same Superintendent with William Bunney as Mine Boss. Fan ventilation; machine mining; motor and mule haulage.

Feb. 14th. This mine always has been found in very good condition, and the management deserves credit for the close supervision and interest they manifest in this mine; 8 cutters, 20 pick miners, 70 loaders, 37 day hands.

Cabbage Run.

Owned by same company, located at same place, operated by same management and coal dumped over same tippie as the No. 2 mine. Fan ventilation; machine and pick mining; motor and mule haulage.

Feb. 13th. This mine was found in very good condition; 10 cutters, 6 pick miners, 85 loaders, 29 day hands employed.

Jefferson No. 3.

Located on the L. E. A. & W. R. R., at Harpersville, O. Owned by The Jefferson Coal Co., Cleveland, Ohio. William Simpson, Supt.; Joe Orrell of Harpersville, is mine boss. Fan ventilation, machine mining; motor and mule haulage.

March 9th. In company with J. M. Roan, Safety Commissioner of Mines we investigated the accident of John Cuba, who, without authority, ran a motor at a high speed into a fall of stone on motor road, causing injuries to himself. Mr. Roan caused his arrest and a fine was imposed upon him as a penalty of jeopardizing the lives of himself and other workmen; 22 cutters, 28 pick miners; 157 loaders; 56 day hands employed.

Jefferson No. 4.

Mine has been suspended during the year.

Walnut Hill.

Located on the C. & P. R. R. at Yorkville, O. Operated by the O. & P. Coal Co., Cleveland, O. Supt., Jos. Nelms; mine boss, John Gallagher. The former of Tiltonville and the latter of Martins Ferry. Fan ventilation; machine mining; motor and mule haulage.

Jan. 22d. Conditions in this mine had been greatly improved. Again ordered man holes completed, motor road to be timbered and trolley wire crossing road-way guarded.

Oct. 11th. Investigated fatal accident of John Gallager, the mine boss who was killed by trying to straighten a timber. In doing so he evidently knocked the timber too hard a blow causing it to slip off post leaving timber and stone fall on him. Twenty cutters, 136 loaders, 55 day hands are employed.

Russell.

Located on C. & P. R. R. near Tiltonville, Ohio. Operated by The Russell Coal Co., of Cleveland, Ohio. Supt., Charlie Johnson; mine boss, Seth Williams. Fan ventilation; machine mining; motor and mule haulage.

March 3. Conditions of this mine had been very much improved since former visit. Ventilation on south side found rather weak and ordered a larger air current into this part of the mine. Otherwise mine in fair condition. Ten cutters, 11 pick miners, 87 loaders, 24 day hands employed.

Kelley.

Located on C. & P. R. R. one mile north of Rayland, Ohio. Operated by the Sellway Coal and Mining Co., Cadiz, Ohio, who were the lessees of this property. Supt., Henry Sellway; mine boss, Charles Smith. This company ceased operation about the middle of March and property has since been idle. Fan ventilation; machine mining; motor and mule haulage.

June 19th. In company with Mr. Hall and others who wanted to lease this mine we made an inspection. Requested as soon as mine would be operated again, that a second opening be made, roadways be drained and mine be made sanitary. Two cutters, 18 loaders, 11 day hands had found employment.

Rush Run No. 1.

Located on C. & P. R. R., Rush Run, Ohio. Operated by The Glens Run Coal Co., Cleveland, Ohio. Supt., C. L. Roberts; mine boss, John Coss. Fan ventilation; machine mining; motor and mule haulage.

Jan. 7th. This mine is mining pillars and will soon be finished. Suspended operation in March. About 10 men had been employed.

Rush Run No. 2.

Located also on C. & P. R. R. 2½ miles west of Rush Run. Owned by same Company with same Supt. in charge. William Nichols is mine boss, of Martins Ferry, Ohio. Fan ventilation; machine mining; motor and mule haulage.

Jan. 7th. Found ventilation deficient on 9 and 10 left off No. 1 face. Ordered brattice repaired to increase air current for this part of the mine. Otherwise the condition of this mine had been improved.

Feb. 27th. Found same complaint as on former visit. Investigation showed brattices had been torn down at fan. The rebuilding of this battice improved ventilation.

Oct. 10th. Mine had been idle since April 1st, and encountered many falls in traveling over this mine. Fourteen cutters, 101 loaders, 31 day hands employed.

Rush Run No. 3.

Located at same place as No. 2. Operated by same company, same Supt. in charge. Coal is dumped over same tipple. Also fan ventilation; machine mining; motor and mule haulage. Jarvis Shawhan of Rush Run is mine boss.

Feb. 28th. Ordered refuge holes made and others cleaned. Also to drain haulage roads. Otherwise mine was found in fair condition.

Oct. 24th. Mine in fair condition considering it bieng idle since April 1st. Eight cutters, 59 loaders and 26 day hands.

Plum Run No. 1 and 2.

Located on C. & P. R. R. Rhodesdale, Ohio. Operated by the U. S. Coal Co., of Cleveland, Ohio. Supt., R. H. Lane; mine boss, Thomas Mitchell. Fan ventilation; machine mining; motor and mule haulage.

Jan. 16th. Mine was idle due to breakage of engine furnishing electric power.

March 10th. Investigated fatal accident of Frank Stoper who was killed by a fall of stone at the face of his room. Fourteen cutters, 117 loaders, 43 day hands employed.

Plum Run No. 4.

Located same place as No. 1. and 2. Operated by same Company with same Supt. in charge. Coal is dumped over same tipple. David Kelley is mine boss. Fan ventilation; machine mining; motor and mule haulage.

Jan. 27th. Motor road was wet and muddy due to improper drainage. Working entries were endangered by squeeze. Ordered entries inspected every morning by competent person. Advised that mine be either abandoned or put in safe and lawful condition. Six cutters, 33 loaders and 13 day hands are employed.

Plum Run No. 5.

Located at same place, operated by same Company with same Supt. in charge. Coal is dumped over same tipple. John Caraway is mine boss.

Jan. 27th. Many improvements have been made; motor road has been well timbered and drained and general condition of mine were good. Six cutters, 49 loaders and 24 day hands are employed.

Plum Run No. 3.

This mine did not operate during the year and is suspended.

Jean.

Located on C. & P. R. R. three miles south of Brilliant, O. Operated by the Blythe Coal Co. of Pittsburg, Pa. Supt., John O'Neil, Brilliant; mine boss Wm. Fithen, Rush Run, O. Fan ventilation; machine mining; motor and mule haulage.

Jan. 13th. This mine has a dangerous roof which requires nearly all entries to be timbered. A second opening has been made, greatly improving ventilation. Management has done their best to keep mine in a safe and lawful condition.

Oct. 15th. Due to mine having been idle since last April, the north side of mine was in bad shape, while the south side is standing up very well. Eight cutters, 66 loaders and 31 day hands are employed.

Goucher No. 2.

Located on C. & P. R. R. two miles west of Brilliant, O. Owned by the Dexter Coal Co., Pittsburgh, Pa. The mine is operated by J. C. Ault of Steubenville, who has been appointed Receiver for this Company. Supt., Carl Bucy; mine boss, Richard Redfern, both of Brilliant. Fan ventilation; machine mining; motor and mule haulage.

March 19th. This mine has a bad roof and much water to contend with, especially during the wet season. Extra care is necessary to keep the mine in shape. Ordered a strict compliance with law pertaining to break-throughs; also to clean and drain roadways.

June 30th. Ordered stoppings along main inlet to be built of non-perishable material.

Oct. 14th. Requested refuge holes made and others cleaned out; also stretchers and blankets, together with first aid equipment to be kept at a convenient place near working faces.

Dec. 7th. Management deserves credit for their efforts to keep this mine in as good a condition, considering the natural condition prevailing in this mine.

July 20th. Investigated accident of John Underwood who had his leg fractured and who died two weeks later. Ten cutters, 89 loaders and 31 day hands are employed.

Brettell.

Located one mile east of Mingo Junction, O., on road leading to Steubenville. Coal mined is used for domestic purpose. Operated by Brettell Bros. of Mingo Junction. Supt., E. J. Brettell; mine boss, Abel Armitage, of Steubenville. Furnace ventilation; pick mining the first half and machine mining the last half of the year. At present motor and mule haulage. Inspected this mine six times during the year and at each inspection was found in first class shape. Credit is due to both Company and management for their diligence and efforts in looking after the welfare of this mine. A motor generator, a mining machine and a motor has been installed during the year. Two cutters, 18 loaders and 11 day hands are employed.

La Belle Shaft.

Located in the city of Steubenville, Ohio, and coal mined is used in the La Belle Iron Works. Operated by the same company. R. W. McCausland, Supt.; George Holliday, mine boss to August 1st; George Anderson in charge since. Fan ventilation; machine mining; motor haulage. This is a shaft 200 ft. deep operating the No. 6 vein of coal which is 3 to 3½ ft. thick. Are mining coal in both Ohio and West Virginia territories. Coal mined is on the long-wall system and so far has been a success. The coal being low and the roof being of an exceptionally hard nature made ideal conditions to experiment with this system. Made 8 inspections and any improvements suggested or ordered has always been willingly complied with by this company. Mine has been kept in a fairly good condition at all times.

Aug. 17th. Tested the scales and found them correct. Ten cutters, 98 loaders, 85 day hands inside and 7 loaders outside are employed. The exceptional large amount of day hands inside is caused by brushing roadways every forty-two feet in the long wall work. They are now operating a breast of 1,320 ft. wide on the long wall system on the Ohio side, necessitating 31 roadways.

High Shaft.

Located in Steubenville, O. Owned and operated by the Steubenville Coal and Mining Company. Coal mined is used for domestic purpose. E. B. Jones, Supt.; Matthew Castner, mine boss. Shaft opening, 236 ft. deep, No. 6 coal, 4½ to 5 ft. thick; fan ventilation; machine mining; motor haulage.

Feb. 5th. With Chief Inspector Davis we inspected new tippie, cages, engines and other improvements that had been made during the year previous.

Feb. 18th. Mine in fair condition. Ordered safety catches repaired and shaft entrance guarded with gates.

April 6th. Again found in good condition. Three more inspections were made always finding the mine in a high state of efficiency and the safety of the miners is well looked after. On last visit I ordered new safety catches put on cage. Six cutters, 40 loaders, 14 day hands are employed.

Nicholson.

Located in Dillonvale, Ohio. Operated by Pete Nicholson, Dillonvale, Ohio, who is Supt. and mine boss. Furnace ventilation; pick mining; mule haulage. During the year an additional coal territory was added, a new tippie was erected, incline built, new opening made making it now an ideal mine. Six inspections were made and mine was found in good condition at all times. Eight pick miners and 3 day hands are employed.

SMALLER MINES IN JEFFERSON COUNTY.

All mines mentioned are drift openings, No. 8 seam of coal, averaging about 5 feet. All are pick mines. Some are using mules for haulage purpose, in others miners push the coal out themselves.

Sugar Hill.

Owned by Sugar Hill Coal Co., located in Steubenville, O., with Elmer H. King as manager. Furnace ventilation. Made four visits and found mine in good condition at all times. Entry has been driven straight through the hill making good ventilation. Eight men employed.

Verwholt.

Operated by Henry Verwholt, who is in full charge. Mine is located near Tiltonsville, O. A new furnace has been erected improving ventilation. Seven inspections were made and mine is in fairly good condition. Three men employed.

Ekey.

Located near Wintersville, Ohio, and is operated by Edward Ekey. On Dec. 10th ordered ladder in shaft to provide an escapement-way. Otherwise mine in fair condition.

Nathan Hunter.

Located 2 miles north of Smithfield, O., owned by Nathan Hunter, with Frank Hicks in charge. Made 4 inspections and found mine in very good condition. Four men employed.

J. B. Hunter.

Owned by J. B. Hunter. Located 2 miles south of Rhodesdale,, Ohio, with Perry Brindley in charge. This is a new mine just being opened. Two miners employed.

Brindley.

Located 1 mile west of Rush Run, O. Operated by Sam Brindley who is in full charge. Ordered second opening to improve ventilation and comply with the mining laws. Two men employed.

Snyder.

Located 1½ miles west of Dillonvale on pike leading to Mt. Pleasant. Operated by Frank Snyder who is in charge. April 7th ordered second opening made. Mine in fair condition. Have furnace ventilation. Oct. 14th ordered break-throughs closed at the head of main entry to improve air current at working faces. Second opening has been made and mine is in good condition. Six men employed.

Foster.

Located 2 miles southwest of Smithfield, O., on pike leading to Dillonvale, O. L. E. Foster is in full charge. One visit made and mine was found in good condition. Three men employed.

Joe Large.

Located 1 mile north of Rayland, O. Operated by Joe Large who is in full charge. Mine connects with the Portland Coal Co., and their fan furnishes ventilation. Two visits were made and mine was found in good condition. Two men employed.

Genree.

Located near Tiltonsville, O. Owned by G. W. Genree, lessee Flav Harris. Five inspections were made and at all times the mine was found in good condition. Five men employed.

Cox.

Located 1 mile west of Brilliant. Operated by the Cox Coal Company with Thomas Cox in charge. Sept. 22d. As main entry is driven straight through the hill ventilation is good as furnace is installed. Mine in good condition. Four miners are employed.

Bickerstaff.

Located 2 miles west of Mingo Junction. Owned by Robert Hill, lessee Henry Bickerstaff who is in full charge. Three inspections were made. A furnace has been installed and are now driving for a second opening. General condition fair. Six men employed.

Robert Hill.

Located 1 mile west of Steubenville, O., on Gould pike. Operated by George Speaks until November. Thomas Ward, lessee since. Four inspections were made and conditions were found fair except on Dec. 7th and 8th. Fire is raging along hillside north of this mine. In order to avoid fire breaking into the mine, ordered a brick stopping placed in entry leading to old works. Also ordered air current reversed, making the inlet the old Bickerstaff mine. This will give the miners the benefit of fresh air as furnace is placed near the pit mouth. Six men employed.

Lewis.

Located $1\frac{1}{2}$ mile west of Rush Run. Operated by Charlie Lewis who has charge. This mine has only recently been opened and so far is in fair condition. Two men employed.

Knubel.

Located same place as Lewis mine with Herman Kneubel in charge. This is also a new mine. Employing from 1 to 2 men.

Ruth.

Operated by Ed. Edmunds who is in full charge. Located near Adena, O. Ordered second opening on first visit made. On last visit found orders complied with and mine is now in good condition. Three men employed.

J. F. Murnon.

Located 2 miles north of Dillonvale, O., on Smithfield pike. Operated by miners of Dillonvale, O., with Amos Monto in charge. Coal mined is for domestic purpose to help the striking miners to get their winters coal. Requested a second opening made. Mine in fair condition. Six miners employed.

Castner.

Located near Adena, O. Operated by Lewis Castner who is in charge. Two inspections were made and mine was found in fairly good condition. Four men employed.

Union.

Located $2\frac{1}{2}$ miles southwest of Dillonvale, O. Operated by Local Union No. 2080 U. M. W. of A., Bradley, O., with Andy Waldman in charge. One inspection made. This is a new mine opened up for the purpose of supplying the miners of Bradley with coal during the strike. A furnace produces ventilation. Mine in fair condition. Eight miners employed.

Black & Ashman.

Located 3 miles west of Dillonvale near the old Long Run mine. Operated by John Black who is in charge. This is practically a new mine. April 14th ordered second opening made. On Oct. 6th air shaft had been completed and mine was in fair condition. Three men employed.

Ainskogh.

Located 1 mile east of Ramsey. Operated by Thomas Ainskogh. Furnace ventilation. April 14th ordered mine closed on account of no ventilation and second opening having caved in. Ordered repairs made before mine could resume operation. Three men employed.

Frank McCarthy.

Located near Ramsey. Operated by Frank McCarthy who is in charge. April 14th ordered second outlet for this mine to improve ventilation and establish an escapement way. Two miners employed.

J. D. Moore.

Located near Adena, O. Operated by J. D. Moore who is in charge. April 15th ordered doors hung on entry to circulate air around working faces. Otherwise in fair condition. Two miners employed.

Henry Bro.

Located near Wintersville, O. Operated by the Henry Bro. Coal Co. June 2d. This is a new mine, were driving through old workings to reach solid coal. Ordered a second opening made. Dec. 10. Air shaft had been sunk, ventilation had been improved and mine was in fair condition. Five miners employed.

Jas. McMillen.

Located one mile south of Richmond, O. Operated by Jas. McMillen who is in charge. June 24th ordered the double entry system adopted to improve ventilation. Two miners employed.

Crawford.

Located near Richmond with Thos. Saltsman in charge. June 24th ordered double entry system to be established in the operation of this mine in order to produce better ventilation. Otherwise mine in fair condition. Three men employed.

Coal Hill.

Located on Coal Hill 2 miles west of Steubenville, O. Operated by the Coal Hill Co. with Frank Snyder of Mt. Pleasant in charge. July 30th. This is a new mine going through old works into a solid block of coal. Three miners employed.

John Ickes.

Located near Adena, O. Operated by John Ickes with Poliv Stanckovitz in charge. April 2d. Were driving main entry and turning rooms on both sides. Stopped mine. Ordered a second opening made and double entry driven for better ventilation. August 26th former orders had been complied with and mine was in good condition. Nov. 6th again found in good shape. Three miners employed.

W. B. Garrison.

Located south of Smithfield on Dillonvale pike. Operated by W. B. Garrison who is in charge. Sept. 1st ordered shaft sunk for air and second opening. Three miners employed.

Christman & Trasher.

Located 3 miles north of Brilliant on the Georges Run pike. Operated by Chas. Christman, who is in charge. Sept. 26th ordered the double entry system carried out in the operation of this mine. Otherwise mine is in good condition. Three miners employed.

Samuel Moody.

Operated by Sam Moody who is in charge. Located also on the Georges Run pike. Sept. 26th requested second opening made to improve ventilation and establish a second outlet. Two miners employed.

James Strickler.

Operated by as. Strickler, located one mile north of Smithfield. Ordered second opening made. Mine in fair condition. Three miners employed.

Robt. Fithen.

Located near Rush Run, O., with Robt. Fithen in charge. Ordered second opening, which has since been done. Three miners employed.

Thomas Ward.

Operated by Thomas Ward, located on pike from Steubenville to Gould. Mine found in good condition as second opening had been made. Two miners are employed.

Scott Lodge.

Operated by Scott Lodge, located near Gould pike from Steubenville, O. Mine in fair condition, except ordering some break-throughs closed. Two miners employed.

James Erwin.

Located on Gould pike, operated by James Erwin. Found this mine also in good condition. Two men employed.

Geo. Andrews.

Located at Rayland, operated by John Andrews who is in charge. Furnace ventilation. Mine is working on the retreating system as coal is about all worked out. Ordered pit mouth timbered. Two miners employed.

HARRISON COUNTY.

Somers No. 1.

Located on W. & L. E. R. R. at Robyville, O. Operated by the Somers Coal Co., Cleveland, O. Supt., Sam Cook; mine boss, Thos. Aspinall, Robyville, O. Fan ventilation; machine mining; motor and mule haulage.

Feb. 26th. This mine has been kept in good condition with good motor roads, good drainage and fairly good ventilation. Ordered boxes for storage of powder, and a strict observance of the law pertaining to the use of carbide.

Nov. 17th. Mine having been idle for 8 months was in good condition. Eighteen cutters, 130 loaders and 39 day hands are employed.

Somers No. 2.

Located at same place as No. 1 and operated by the same company. Coal mined is dumped over same tippel. Sam Cook, Supt.; Louis, Murdock, mine boss, located at Robyville.

Feb. 25th. This mine has also been kept in a high state of efficiency and on this visit was found in good condition.

Dec. 11th. Considering the mine being idle since April 1st it has been well looked after and is ready to resume operation on short notice. Sixteen cutters, 134 loaders and 48 day hands are employed.

Majestic.

Located on the W. & L. E. R. R. at Blairmont, O. Operated by the Blair Coal Co., Toledo, O. Supt., Wm. L. Moke, Adena; mine boss, Anthony Wona-cott, Blairmont, O. Fan ventilation; machine mining; motor and mule haulage.

March 16th. This mine is driven in a long distance, has a bad roof and much water to contend with. Efforts have been made to keep this mine in good shape. Ventilation however should be improved and the company has agreed to sink an air shaft near the face of last set of butt entries to the left. Ordered the use of carbide within strict observance of the law. Sixteen cutters, 125 loaders, 46 day hands are employed.

Kenwood.

Located on the W. & L. E. R. R. at Kenwood, O. Operated by the Oliver Coal Co., Pittsburgh, Pa. Supt., D. McIntire; mine boss, Wm. Williams, Kenwood, O. Fan ventilation; machine mining; motor and mule haulage.

Jan. 12th. The natural conditions in this mine have prevented a successful operation of this property. The roof is bad, due to the shallow strata overlying this coal, which also leaves much surface water drain into the mine. Many improvements were made during the year 1913, the old workings were abandoned by opening a new pit mouth. Another second opening was made and an extra fan installed to improve ventilation. In March this mine went into the hands of a receiver. Four cutters, 30 loaders and 24 day hands are employed.

Hutson No. 9.

Located on the Wabash R. R. near Hopedale, O. Operated by the Hutson Coal Co., Cleveland, O. Supt. and mine boss, T. J. Williams of Hopedale, O. Fan ventilation; machine mining; motor and mule haulage.

March 17th. This is practically a new mine, only having operated for a short time. Management is doing their best to keep the physical condition of the mine up to a high standard. Mine was found in good condition. Four cutters, 4 pick miners, 38 loaders, 21 day hands are employed.

North Fork.

Located on the W. & L. E. R. R. two miles north of Adena, O. Operated by the North Fork Coal Co., Adena, O. Supt., Ray Moore; mine boss, Noble Easton, both of Adena, O. This is a new mine and judging from the equipment that is installed it will be a model mine.

July 2d. Were only driving entries. Broke through into the old workings of the abandoned mine formerly belonging to the Adena Coal Co.

Oct. 14th. Had stopped driving entries until strike in district is settled. Fan was installed and mine was found in good condition.

All mines hereinafter mentioned are drift openings into the No. 8 seam with coal about $4\frac{1}{2}$ ft. thick.

Oliver Hines.

Located at Jewett, O., operated by Oliver C. Hines. Mine was found in fair condition. Three men employed.

Joseph Webster.

Located 2 miles south of Jewett, O., operated by Joseph Webster who is in charge. Mine also in fair condition. Three men employed.

G. O. Flemming.

Operated by G. O. Flemming who is in charge. Located 2 miles east of Jewett, O., on pike to Germano, O. This mine was also found in good condition. Four men employed.

Robert Anderson.

Operated by Robert Anderson. Located at Cadiz, O. William Wallace, mine boss. Jan. 15th ordered furnace built. Stopped two places for the want of ventilation. Aug. 3d fire basket had been installed and ordered second opening made. Seven men employed.

Kane & Poulson.

Located at Cadiz, O. Operated by Poulson & Kane for the first half and by James Kane the later half as sole owner. Jan. 15th. Shut part of the workings down on account of no ventilation being 150 ft., ahead of air also ordered the shaft connected with workings as soon as possible. Dec. 2d ordered ladder in air shaft, adopt double entry system and erect door on main haulway. Seven miners employed.

C. C. Pickering.

Located near Cadiz, O., operated by C. C. Pickering who is in charge. Jan. 8th ordered furnace in air shaft and make other repairs. Dec. 15th furnace was built but had to tear out brattish in order to increase area to produce a greater volume of air. Seven men employed.

Charles Scott.

Operated by Charles Scott, located at Cadiz, O. Ordered second opening for this mine. Two men employed.

James W. Kerr.

Located at Cadiz, O., operated by James Kerr. Mine boss, B. F. Conoway. This is a new mine. Air shaft had been made and mine is in first class condition. Ordered ladder in air shaft. Four men employed.

R. M. Baker.

Operated by R. M. Baker. Located near Cadiz, O. This is also a new mine. Ordered air shaft cleaned out or other second opening made. Two men employed.

David S. Hopkins.

Located at Georgetown, O., operated by David S. Hopkins. Advised double entry system be adopted. Mine in fair condition. Four men employed.

A. B. Jenkins.

Located at Short Creek, O., operated by A. B. Jenkins who is in charge. Ordered double entries driven from air shaft in order to improve ventilation. Two miners employed.

Samuel Dunlap.

Located on pike from Adena, O., to Cadiz, O., three miles south of Cadiz. Closed this mine as it was in bad condition. No ventilation and no second opening. Ordered the necessary improvements made. Two miners employed.

J. L. Keesey.

Located 4 miles southwest of Cadiz, O. Investigated fatal accident of Charles Cunningham who was killed by a fall of sand rock. This is the only place in the No. 8 where a sand rock overlies the No. 8 seam of coal.

Robert Hagan.

Located 2 miles west of Adams, O., operated by Gotfried Roeb. Closed mine until second opening is made. One man employed.

David Jackson.

Located 2 miles west of Adena, O., operated by David Jackson who has charge. Mine was found in fair condition. Two men employed.

Andy Hoobler.

Located near Germano, O., with Andrew Coon in charge. Found mine in fair condition. Two miners employed.

Loyd Mull.

Located near Germano, O., Sam Burrier in charge. Mine also in fair condition. Three men employed.

Morris Hoobler.

Located near Germano, O., with Ed. Dinger in charge. Mine in good condition. Four men employed.

William L. Hoobler.

Located near Germano, O., with W. D. Galbreath in charge. Mine found in fair condition. Four men employed.

Allison Miller.

Located near Germano, O., with Thos. Lewis in charge. Mine in fair condition. Two men employed.

BELMONT COUNTY.

MINES VISITED OUTSIDE DISTRICT No. 8.

Troll No. 2.

Operated by the Troll Coal Mining Co., Cleveland, O. Located on B. & O. R. R. near Maynard, O.

May 30th. In company with Supt. E. J. Christy we made a inspection for the purpose of finding out if any gas was leaking from a oil well that had been drilled through old workings of their mine. Did not find a trace of any gas anywhere. Mine was idle.

Ideal.

Operated by the F. L. Head Coal Co., Fairpoint, O. Located on the B. & O. R. R. near the same place. Supt., W. J. Bertram; mine boss, Thos. Burmott, both of Fairpoint, O.

Dec. 14th. Company wanted to resume operation of this mine and inspection was made before doing so. Fan was not running as negotiation for power from the Columbia mine was still pending. Ordered wire repaired, all rooms to be supplied with necessary timber, and all dangerous rooms to be securely posted.

Captina.

Operated by the Captina Coal Co., Armstrong Mills, O., Belmont Co. Located near said place on narrow gauge railroad. Supt., J. B. Hall of Bellaire; mine boss, Wm. Haught of Armstrong Mills.

Dec. 18th. Requested doors and brattices repaired to avoid leakage; also to cut all ice out of airshaft as it was impossible to use it as a escapement way. Stretcher blanket and other first aid equipment was ordered kept in a suitable place near working faces. Twenty-five men employed.

Fort Pitt Mine.

Operated by the Fort Pitt Coal Co., Pittsburgh, Pa. Located on C. P. R. R. across the Ohio river from Moundsville, W. Va. In company with J. C. Davies, L. D. Devore, Hugh Gaffney and Robt. Wheatley, other inspectors, we made a inspection to determine what should be done to relieve the old workings of standing gas. A full report will be made by L. D. Devore, the inspector for this district.

JACKSON COUNTY.

Superior No. 9.

Was called upon to assist in extinguishing a fire that had broken out on the outside of this mine. On my arrival I found that fire had been fought successfully and was out.

PERRY COUNTY.

Congo No. 1.

Operated by the Sunday Creek Coal Co., Columbus, O. Located at Congo, O.

Aug. 17th-18th-19th-20th-21st. Assisted in reopening this mine after a period of idleness for over nine months due to a mine fire. A full report will be made by Thos. Grogan the inspector for said district.

NINTH DISTRICT

HUGH GAFFNEY, INSPECTOR.

BRIDGEPORT, OHIO.

COMPOSED OF A PORTION OF BELMONT COUNTY.

(753)

HON. J. M. ROAN, *Chief Deputy and Safety Commissioner of Mines, Columbus, Ohio.*

DEAR SIR:—I herewith submit my annual report of the Ninth Mining District, composed of part of Belmont County, for the year beginning January 1st and ending December 31st, 1914.

This has proven to be an unfavorable year in this district for operators, miners and all others dependent on the coal industry owing to a strike being on for the last nine months of the year, due to the inability of miners and operators to agree upon a price per ton for run of mine coal.

The work for the first three months of the year did not exceed three-fourths ($\frac{3}{4}$) time owing to the poor demand for coal; this slack work for the three months together with the strike reduced the output of this district to about 19% of the output of the year 1913.

For the three months work in this district I regret to have to report eight fatal accidents, which are as follows.

January 7th. Steve Maggy was killed in the Florence mine by coming in contact with the trolley wire.

January 28th. Frank Hora was killed in the Wheeling Creek No. 2 mine by a gas explosion.

February 20th. George Hotea was killed in the Florence mine by a fall of coal.

March 13th. Peter Siranni was killed in the Virginia Hill mine by draw slate.

March 18th. Alex Marma was killed in Provident No. 1 mine by the mine cars.

March 19th. Stanley Angel was killed in the Blaine North mine by a fall of roof.

March 30th. William Morris was killed in the Troll No. 4 mine by the mine cars.

March 31st. Kalman Pataky was killed in the Provident No. 1 mine by draw slate.

In addition there was one man, Pete Harladish, died in the Blaine North mine from natural cause. (Hemorrhage.)

One hundred and forty-six visits were made, 37 of which were visits to other districts, and 25 visits were made to oil wells, 6 of which were plugged. There was one new mine opened in the district and none abandoned. Two permanent improvements made, one a new opening; the other a new fan.

Tested two sets of scales which were found correct, and gathered six samples of miners oil.

There was a noticeable activity with the coal companies at the beginning of this year in the direction of and putting in practice "Safety First" and with the assistance of better discipline the carrying out of this work will result in great good. In the pursuance of my duties I have received the most courteous treatment from operators and miners, for which I thank them.

I also wish to express my appreciation for the many courtesies shown me and advice given me by you, your assistant, and all the other inspectors, and also the office force.

Respectfully submitted,

HUGH GAFFNEY,
*Deputy Mine Inspector Ninth Dist.
Bridgeport, Ohio.*

* December 31st, 1914.

BELMONT COUNTY.

St. Clair.

Located $2\frac{1}{2}$ miles east of Flushing on the C. L. & W. Division of the B. & O. R. R. Shaft opening, 85 feet deep, No. 8 seam; fan ventilation; motor and mule haulage; machine mining. Owned and operated by the St. Clair Coal Co., Cleveland, O. Fred Hornickle, Supt., Flushing, O.; Jos. Mills, mine foreman, Flushing, O. Employs 150 loaders, 18 machine men, 60 day men. Three visits were made.

Jan. 5th. Found the air entering the mine insufficient for the number of men and animals in the mine. The ventilating system will be changed which should improve conditions; the roof conditions are bad in entries and haulage roads and the timbering of them is neglected; all haulage roads are very dirty and the drainage bad. Ordered these matters be attended to at once and put in good order.

March 26th. Fifth South and $5\frac{1}{2}$ West sections, found the ventilation very weak. Dangerous roof conditions on the haulage roads; manholes in bad order; wires not properly placed and not guarded. There is not yet a sufficient amount of air entering the mine for the number of men in the mine. Ordered the force of men working in the mine be reduced 26 to comply with the mining law; that the ventilation at the working places must be improved without further delay, and all dangerous roof made safe; manholes cleaned out and whitewashed; all wires properly hung and guarded where men are compelled to pass under them

Aug. 25th. Consulting with mine management regarding the improving of the ventilation.

Wheeling Creek No. 2.

Located at Wheeling Creek. Owned and operated by the Lorain Coal & Dock Co., Columbus, O. Gilbert Hanson, Supt., Bridgeport, R. F. D.; James Prokes, mine foreman, Bridgeport, R. F. D. Four pick miners, 149 loaders, 16 machine men employed. Drift opening to the No. 8 seam; fan ventilation; motor and mule haulage; machine mining. Nine visits made.

Jan. 6th. Found mine in good condition.

Jan. 28th. In company with Inspector Devore we investigated the fatal accident of Frank Hora, who was killed by an explosion on 21 and 22 West butt entries. After a thorough examination of the place and surroundings we were unable to determine the cause of the explosion as we could get no trace of gas in these entries; this section of the mine consisted of 3 sets of entries, a pair of face entries to the right and a pair of face entries to the left off 21 and 22 West, with 21 and 22 West advanced over 700 feet past the face entries and no rooms turned off 21 and 22 West. We determined to make a further investigation later.

Jan. 30th. I made a further investigation of the cause of the explosion without results.

Jan. 31st. In company with Chief Inspector J. C. Davies and District Inspector L. D. Devore we made the third investigation of the fatal accident of Frank Hora and the cause of the explosion which killed him, we could not say that it was caused by firedamp, for on these three days we made a close inspection for fire damp with the fan stopped from 8 to 10 hours before each inspection but failed to detect gas with approved safety lamps. While making our inspections we found two kegs of refuse carbide from miners lamps on 21 and 22 West entries, one of which was found in a break-through; this break-through

had a brattice built near the center of it and was partly filled with stone at both ends but vacant in the center, and this keg of refuse carbide was behind the stone near the brattice. This keg of refuse carbide we took out of the mine and tested in the open air and discovered that there were still particles of carbide which had not yet been entirely exhausted and until further investigation could be made we issued the following order: "While making a thorough investigation of the fatal accident of Frank Hora, we find that the law relative to the use of carbide lamps is being violated in the Wheeling Creek mine to such an extent as to make dangerous conditions. Until further notice the use of carbide lamps in the Wheeling Creek mine is forbidden.

(Signed) H. GAFFNEY,
District Inspector.
L. D. DEVORE,
District Inspector.

Approved: J. C. DAVIES, *Chief Inspector of Mines.*

Feb. 9th, 10th and 11th. Further investigations were made in company with Chief Inspector J. C. Davies, Safety Commissioner of Mines J. M. Roan, District Inspectors Devore and Wheatley and joined on February 11th by J. W. Paul of the U. S. Bureau of Mines, no different conclusion was arrived at yet. Mr. Paul took samples of the air in 21 and 22 West to Pittsburgh.

March 2d. Made a further investigation of the accident of Jan. 27th as the lamp of the deceased had been found, and no definite conclusions arrived at as yet. I took samples of the air at three different places in 21 and 22 West entries. The analysis of the air showed normal mine air and no gas found in it.

March 11th. In company with Chief Inspector J. C. Davies we made a further inspection of 21 and 22 West entries with the air shut off these two entries for 240 hours we were able to get traces of gas which led us to believe and we are now convinced that the accident of January 27th was due to this cause.

Florence.

Owned and operated by the Y. & O. Coal Co., Cleveland, O. Located 3 miles north of Martins Ferry on the C. & P. R. R. Lee Rankin, Supt., Martins Ferry, O.; Harry Kirkpatrick, mine foreman, Martins Ferry, O. Drift opening to the No. 8 seam; fan ventilation; motor and mule haulage; machine mining; employs 235 loaders, 32 machine men, 62 day men. Four visits made.

Jan. 7th. Called to investigate fatal accident of Steve Naggy, who was killed by coming in contact with the trolley wire.

Jan. 19th. Inspected 8 left section of the mine and found it in good condition. The orders of my former visit had been carried out very satisfactorily and credit is due the management for the fine condition of the mine as found on this inspection.

Feb. 18th. Inspected the improvements made on the escapement way and found them satisfactory.

Feb. 25th. Investigated the fatal accident of George Hotea, who was killed by a fall of coal at the face of his working place.

Virginia Hill.

Located at Lafferty on the C. L. & W. R. R. Owned and operated by the Virginia Hill Coal Co., Cleveland, O. T. J. Jorden, Supt., Lafferty, O.; Wm. Redfern, mine foreman, Lafferty, O. Slope opening to the No. 8 seam; fan ventilation; motor haulage; machine mining; employs 100 loaders, 14 machine men, 38 day men. Three visits made.

Jan. 12th. Found that some of the break-throughs had not been made at the proper distance, otherwise in fair condition.

March 13th. Investigated the fatal accident of Peter Siranni, who was killed by draw slate falling on him.

April 22d. Investigated the filing of the mine map.

Barton.

Located at Barton, O., on the C. L. & W. Div. of the B. & O. R. R. Owned and operated by the Y. & O. Coal Co., Cleveland, O. W. C. Batson, Supt., Barton, O.; W. T. Roberts, mine foreman, Barton, O. Drift opening, No. 8 vein; fan ventilation; motor haulage; machine mining; employs 1 pick miner, 205 loaders, 30 machine men, 72 day men. One visit.

Jan. 13th. Found that the draw slate was not being taken down properly to the ribs making dangerous conditions. Ordered the draw slate in entries taken down to the ribs. The mine otherwise is in fair condition.

Blaine (North Side.)

Located at Blaine, O. Owned and operated by the Lorain Coal & Dock Co., Columbus, O. James Johnson, Supt., Bridgeport, O.; George Wardle, mine foreman, Blaine, O. Drift opening, No. 8 seam; fan ventilation; motor and mule haulage; machine mining. Four visits made.

Jan. 20th. By request of the Chief Inspector to make a careful examination of the roof conditions of all the roadways of this mine, found the same conditions as on my former visit, the roof breaking and falling along the entries and the timbering neglected; on my former visit ordered these entries timbered and made safe and the roadways cleaned, but the order was not complied with; on this visit the company started at once to timbering and putting the mine in safe condition.

Feb. 16th. Invited by the mine superintendent to inspect the timbering work they were doing, found good work being done but still had more to do.

March 19th. Investigated fatal accident of Stanley Angel, who was killed by a fall of roof. The same day Pete Harladish died in the mine from natural cause (hemorrhages).

July 13th. Made an exterior inspection by request of the management, found the power lines cut and carried off and door of power house damaged.

Blaine (South Side.)

Located at Blaine, O., on C. L. & W. R. R. Same owners and Supt. as Blaine (North Side). Wm. Turner, mine foreman, Blaine, O.

March 20th. A special inspection was made in company of a committee of operators. Inspector J. C. Davies and Safety Commissioner of Mines J. M. Roan. Found the mine in good condition.

Kirkwood.

Located near Bridgeport, O., on the C. L. & W. R. R. Owned and operated by the Hutchinson Coal Co., Fairmont, W. Va. William Heller, Supt., Bridgeport, O.; Fred Singerman, mine foreman, Bridgeport, O. Drift opening to the No. 8 seam; fan ventilation; motor and mule haulage; machine mining.

Jan. 21st. With the exception of dust on road and four manholes needed, the mine is in fair condition. Ordered that the dust be sprinkled and removed off the roads and four manholes made on main entry haulage near the passway.

Tunnel.

Owned and operated by the Flushing Coal Co., Elyria, O. Located at Flushing on the C. L. & W. Div. of B. & O. Geo. Mellwood, Supt., Flushing, O. Drift opening to the 8A seam; fan ventilation; motor and mule haulage; machine mining. Two visits made.

Jan. 22d. Found a slight improvement in the air but the air is not carried to the working places as I ordered on my former visit to this mine. I have given more time for this to be done and then if not done action of some kind is promised. There is considerable amount of water on 17 and 18 passway and the drivers and miners have to walk through it. Ordered that the water be taken off the roads at 17 and 18 passway.

March 25th. Found the mine idle.

Taplin.

Located near Bannock, O., on the C. L. & W. R. R. Owned and operated by A. J. Morgan Co. Jacob Long, Supt., Bannock, O. Two visits made.

Jan. 23d. This is a new slope mine just opening to the No. 8 seam, slope is now down 65 feet and the airshaft is down 15 feet.

March 17th. The slope and airshaft have just reached the coal.

Meister.

Located near Flushing, O. Owned and operated by the Meister Coal Co., Flushing, O. Joe Meister, Supt., Flushing, O.; Chiles Evans, mine foreman, Flushing, O. Employs 66 loaders, 10 machine men, 26 day men. Drift opening, No. 8 seam; fan ventilation; motor and mule haulage; machine mining. One visit.

Jan. 27th. Found a number of miners without wooden boxes in which to keep their powder, and all brattices between main intake and return airways are made of wood; otherwise the mine is in good condition. Ordered that all miners to provide wooden boxes in which to keep their powder, and all stoppings on main intake airway built of non-perishable material.

Pauline No. 1.

Located at Bannock, O., on C. L. & W. R. R. Owned and operated by The Progress Coal Co., Cleveland, O. C. P. Shockley, Supt., Bannock, O.; John Evans, mine foreman, Bannock, O. Shaft opening, 36 ft. deep, No. 8 seam; fan ventilation; motor and mule haulage; machine mining. One visit.

Feb. 3d. The ventilation is improved greatly since my former visit and the mine generally in good condition. Found a number of miners without wooden boxes for their powder. Ordered same procured at once.

Lydia.

Located west of Maynard, O., on C. L. & W. R. R. Owned and operated by the Pursglove-Maher Coal Co., Cleveland, O. David Pursglove, Supt., St. Clairsville, O.; William Reline, mine foreman, St. Clairsville, O. Drift opening, No. 8 seam; fan ventilation; motor and mule haulage; machine mining; employs 4 pick miners, 150 loaders, 20 machine men. Two visits made.

Feb. 5th and 6th. Found orders of previous visit have been complied with and mine in good condition. Found a number of miners did not have wooden boxes to keep their powder in. Ordered that all miners must have wooden boxes at once to keep their powder in.

Gaylord No. 1.

Located north of Martins Ferry on C. & P. R. R. Owned and operated by the Pittsburgh and Cleveland Coal Co., Cleveland, O. T. L. Sauters, Supt., Martins Ferry, O.; W. Sowden, mine foreman, Martins Ferry, O. Drift opening, No. 8 seam; fan ventilation; motor and mule haulage; machine mining; employs 4 pick miners, 128 loaders, 18 machine men. Two visits made.

Feb. 9th. Made a partial inspection of mine when I was called away to another mine.

Feb. 13th. Completed inspection of the mine and found it in good condition.

Lansing.

Located at Lansing on C. L. & W. R. R. Owned and operated by the Lorain Coal & Dock Co., Columbus, O. Wm. Slater, Supt., Blaine, O. Two mine foremen, Samuel Mills, Blaine, O.; Wm. Embleton, Lansing, O. Drift opening, No. 8 seam; fan ventilation; motor and mule haulage; machine mining; employs 2 pick miners, 310 loaders, 42 machine men, 125 day men. Three visits made.

Feb. 17th. Made a partial inspection and found the roads dirty and the air weak in several entries.

Feb. 26th and 27th. Found considerable improvement made in cleaning roads and manholes, but ventilation still weak in some entries. Ordered the brick stoppings advanced on the main intake airway, and owing to the size of this mine there should be one or more splits made of the air by using the overcast system, and the cleaning of roadways and manholes be continued until completed.

Pittsburgh Belmont No. 3.

Located near Lafferty, O., on C. L. & W. R. R. Owned and operated by the Pittsburgh Belmont Coal Co. J. H. Lang, Supt., Lafferty, O.; James Martin, mine foreman, Lafferty, O. Slope opening, No. 8 seam; fan ventilation; motor haulage; machine mining; employs 8 pick miners, 120 loaders, 16 machine men, 45 day men. Two visits made.

March 3d. Mine idle.

March 16th. Found the air course leading to the airshaft badly choked, the second opening not available for an escapement way, the manholes generally are filled with dirt. Ordered the air course cleaned out, a traveling way made to the airshaft for an escapement way, and all manholes cleaned out and whitewashed.

Columbia No. 1.

Located at Fairpoint on C. L. & W. R. R. Owned and operated by the Valley Camp Coal Co., Cleveland, O. Earl McConnaughey, Supt., Bridgeport, O.; George Wheeler, mine foreman, Fairpoint, O. Drift opening, No. 8 seam; fan ventilation; motor and mule haulage; machine mining; employ 79 loaders, 10 machine men, 22 day men. Two visits made.

March 5th and 6th. Found the ventilation weak throughout the mine. The roof conditions in most entries and all the haulage roads are bad. The manholes generally are filled with dirt. There is a steam jet just inside the mine entrance which discharges steam into the haulage roads which are used for the traveling way, making conditions dangerous. The haulage roads are all very dirty and drainage is bad. Ordered the ventilation improved and that non-perishable material be used for stoppings on the main intake airway, and that all entries and haulage roads be timbered and made safe. Manholes to be cleaned out and others made where needed, and all haulage and traveling roads to be kept free from steam and cleaned up and drained.

Kennon.

Located west of Flushing on C. L. & W. R. R. Owned and operated by the Kennon Coal Mining Co., Cleveland, O. Alexander Lindsay, Supt., Flushing, O. Drift opening, No. 8 seam; fan ventilation; motor and mule haulage; machine mining; employs 76 loaders, 12 machine men, 30 day men. One visit.

March 9th. Found 5 and 6 East entries without any air; stopped the entries and all the rooms on them, also stopped 13 and 14 East entries and all the rooms on them as the roof conditions on the entries are dangerous for men or animals to travel under. The manholes were generally filled with dirt. Ordered that no men be allowed to work in 5 and 6 East until it was properly ventilated, and that no men be allowed to work in 13 and 14 East until it was timbered and made safe. All manholes must be cleaned out and whitewashed. An extension of time to April 1st was given to repair the fan as ordered on my former visit.

Boggs.

Located near Barton, O., on C. L. & W. R. R. Owned and operated by the Y. & O. Coal Co., Cleveland, O. P. Leonard, Supt., Barton, O. Drift opening, No. 8 seam; fan ventilation; motor and mule haulage; machine mining.

March 10th. In company with Chief Inspector, J. C. Davies, we made a special inspection of the abandoned part of the mine where oil wells have drilled through the excavations; no trace of gas was found as far as we could travel, but we were unable to get to the oil wells on account of the abandoned workings being caved in; found water which is dammed in here which may in time effect the casing in these wells and cause leakages, which would make conditions dangerous. Ordered the water drained out of the abandoned workings, and that all the abandoned workings be shut off with non-perishable material.

Provident No. 1.

Located near St. Clairsville, on W. & L. E. R. R. Owned and operated by the Provident Coal Co., Cleveland, O. David Thomas, Supt., St. Clairsville, O.; Pete Delesk, Mine Foreman, St. Clairsville, O. Shaft opening, 85 feet deep, No. 8 seam; fan ventilation; motor and mule haulage; machine mining; 2 visits made.

March 18th. Investigated the fatal accident of Alex Manna, who was killed by the mine cars. Also inspected the work being done on cleaning up and re-timbering which was excellently being done.

March 31st. Investigated the fatal accident of Kalman Pataky, who was killed by draw slate.

Maple Hill.

Located at Barton, O., on C. L. & W. R. R. Owned and operated by the Y. & O. Coal Co. Sharpe Hathaway, Supt., Barton, O. Drift opening, No. 8 seam; fan ventilation; motor haulage; machine mining; employs 1 pick miner, 126 loaders, 18 machine men, 54 day men.

March 23d. Inspected first section of mine and found it in good condition

Troll No. 2.

Located west of Maynard, on W. & L. E. R. R. Owned and operated by The Troll Coal Mining Co., St. Clairsville, O. Earl Christy, Supt., St. Clairsville, O. Evan Evans, Mine foreman, Maynard, O. Drift opening, No. 8 seam; fan ventilation; motor and mule haulage; machine mining; employs 145 loaders, 18 machine men, 39 day men.

March 24th. Inspected 5 and 6 north face section; found the air deficient in 17 and 18 west and removed all the men out of these two entries; the haulage roads dusty; found the orders of former visit being carried out. Ordered sufficient amount of air directed to 17 and 18 west before the men were allowed to work there again; that manholes be made on the west haulage road and all manholes cleaned out and whitewashed.

Sept. 4th. Mine on fire on 3rd face between 11 and 12 east and 13 and 14 east butt entries, caused by putting the power on the motor line when the line was broken down on account of a fall of roof, the mine being idle (on strike); with the assistance of inspector Devore and others we extinguished the fire.

Ideal.

Located at Fairpoint, O., on C. L. & W. R. R. Owned and operated by F. L. Head Co., Barnesville, O. Wm. Bertram, Supt., Fairpoint, O. Thos. Bernot, Mine Foreman, Fairpoint, O. Drift opening, No. 8 seam; fan ventilation; motor and mule haulage; machine mining; visit made March 27 and found the mine idle

Troll No. 4.

Located west of Maynard, O., on W. & L. E. R. R. Owned and operated by the Troll Coal Mining Co., St. Clairsville, O. Earl Christy, Supt., St. Clairsville, O. James Cullens, Mine foreman, Maynard, O. Drift opening, No. 8 seam; fan ventilation; motor and mule haulage; machine mining.

March 30th. Investigated the fatal accident of William Morris who was killed by the mine cars.

MINES NOT VISITED BEFORE THE STRIKE STARTED.

Taggart.

Columbia No. 2.

Buckeye.

Crescent 2½, 3 and 4.

Provident No. 2.

Lorena.

Troll No. 1.

Wheeling Creek No. 1.

Gaylord No. 2.

DOMESTIC MINES EMPLOYING LESS THAN TEN MEN.

Old Brokuner.

Located near Wheeling Creek. Drift opening, No. 8 seam; employs 4 men.

Eureka.

Located near Blaine, O. Drift opening, No. 8 seam; employs 2 men.

Crossley.

Located near Blaine, O. Drift opening, No. 8 seam; employs 2 men.

E. N. Boggs.

Located at Maynard, O. Drift opening, No. 8 seam; employs 4 men.

Meister Retail.

Located at Bridgeport, O. Drift opening, No. 8 seam; employs 5 men.

Abbott.

Located at Brookside, O. Drift opening, No. 8 seam; employs 3 men.

Frazier.

Located near Maynard, O. Drift opening, No. 8 seam; employs 2 men.

Hardesty.

Located at Barton, O. Drift opening, No. 8 seam; employs 2 men.

Pratt.

Located at Barton, O. Drift opening, No. 8 seam; 2 men employed.

Paxson.

Located at Brookside, O. Drift opening, No. 8 seam; 3 men employed.

Taylor.

Located east of Bannock. Drift opening, No. 8 seam; 3 miners employed.

Walker.

Located between Maynard and Fairpoint, O. Drift opening, No. 8 seam; 2 miners employed.

Minnet.

Located at Crescent, O. Drift opening, No. 8 seam; 2 miners employed.

S. C. Hardesty.

Located one mile east of Barton, O. Drift opening, No. 8 seam; employs 4 men.

Kirk.

Located 2 miles west of Flushing, O. Drift opening, No. 8 seam; 2 men employed.

Ross.

Located near Flushing, O. Drift opening, No. 8 A seam; 3 men employed.

Morris.

Located 3 miles west of Flushing, O. Drift opening, No. 8 A seam; 2 men employed.

Reddington.

Located near Holloway, O. Drift opening, No. 8 seam; 3 men employed.

Arn.

Located at Hollaway, O. Drift opening, No. 8 seam; 2 men employed.

Conron.

Located one mile east of Flushing. Drift opening, No. 8 A seam; employs 2 men.

Boston.

Located at Lafferty, O. Drift opening, No. 8 A seam; 3 men employed.

Lodge.

Located near Lafferty, O. Drift opening, 8 A seam; 2 men employed.

Majors.

Located near Morristown, O. Drift opening, No. 8 seam; 1 miner employed.

Geo. Campbell.

Located 2 miles west of Fairpoint, O. Drift opening, No. 8 seam; 2 men employed.

Gossett.

Located at Bannock, O. Drift opening, No. 8 seam; 4 miners employed.

Sharp.

Located near Uniontown, O. Drift opening, No. 8 seam; 2 men employed.

Sedgwick.

Located between Maynard and St. Clairsville. Drift opening, No. 8 seam; 3 miners employed.

Rinkes.

Located between Maynard and St. Clairsville. Drift opening, No. 8 seam; 2 men employed.

Reline.

Located 2 miles from St. Clairsville, O. Drift opening, No. 8 seam; employs 2 miners.

Arnold.

Located at Flushing, O. Drift opening, No. 8 A seam; 3 miners employed.

Minor Majors.

Located at Crescent, O. Drift opening, No. 8 seam; 2 men employed.

Shepherd.

Located 2 miles east of Fairpoint, O. Drift opening, No. 8 seam; 2 men employed.

McConnell.

Located 2 miles east of Fairpoint, O. Drift opening, No. 8 seam; 2 miners employed.

Miners.

Located at Barton, O. Drift opening, No. 8 seam; 6 miners employed.

Wallace.

Located at Barton, O. Drift opening, No. 8 seam; 3 miners employed.

Frank Bethel.

Located at Flushing, O. Drift opening, No. 8 A seam; 3 miners employed.

Union.

Located 1 mile east of Flushing. Drift opening, No. 8 A seam; 6 miners employed.

JEFFERSON COUNTY.

Zerbe.

Owned and operated by the O. & P. Coal Co., Cleveland, O. Located at Amsterdam, on the L. E. A. & W. R. R. J. W. Lees, Supt., Amsterdam, O. David Patrick, Mine foreman, Amsterdam, O., R. F. D. Shaft opening, 6 A seam; fan ventilation; motor and mule haulage; machine mining; employs 154 loaders, 18 machine men, 75 day men; 4 inspections made.

Nov. 30th, *Dec.* 1st and 4th. These three days' inspection found the mine in bad condition except the ventilation which was good. Ordered all wires be put in proper order; all haulage roads cleaned up and properly timbered, and all mining machines to be properly shielded.

Dec. 18th. Found that the orders of former visit had not been completed; extended the time 15 days in which to complete the work. Found the airshaft, which is the escapement, frozen up so as to be unavailable for travel; ordered that one of the firebosses inspect the escapement shaft every morning and report on the board the condition of same, and when found frozen up only one opening could be considered to the mine for travel, and they must act accordingly.

Amsterdam.

Owned and operated by the Y. & O. Coal Co., Cleveland, O. Richard Jones, Supt.; Edward Wardle, Mine foreman, both of Amsterdam, O. Shaft opening, No. 6 seam; fan ventilation; motor and mule haulage; machine mining; employs 150 loaders, 20 machine men, 75 day men.

Dec. 2d and 3d. Found the mine in good condition except some breakthroughs that were not made at the proper distance. Ordered that all breakthroughs between entries must be made at 60 ft.; assurance was given that the law would be complied with at once.

Elizabeth.

Owned and operated by the Wolf Run Mining Co., Cleveland, O., located 3 miles from Amsterdam, on a branch of the L. E. A. & W. R. R. Joseph Baker, Supt., East Springfield, O.; 2 mine foremen, Harry Marsan and And. Babbi, both of Wolf Run, O. Shaft opening, No. 6 A seam; fan ventilation; motor haulage; machine mining; employs 174 loaders, 24 machine men, 81 day men.

Dec. 7th and 8th. Found the condition of the mine good; noticed that the motormen in this mine were running the motors with the trolley pole ahead; I stopped this practice at once, and ordered that no motormen be allowed to run the motor with the trolley pole ahead; tested the hopper scales and found them correct.

X. L.

Located near Bergholz, O., on the L. E. A. & W. R. R. Owned and operated by the Wright-Zehner Co., Cleveland, O. C. C. McKeever, Supt.; John Peterson, Mine foreman, both of Bergholz, O. Slope opening; fan ventilation; motor haulage; machine mining.

Dec. 9th. Mine was idle; found the belts in the power house not guarded. Ordered the belts in the power house to be guarded, same to be done in 10 days.

Rice.

Owned and operated by the O. & P. Coal Co., Cleveland, O. Located about 3 miles from Bergholz, O., on the L. E. A. & W. R. R. M. Speicher, Supt.; Robt.

Featheringham, Mine foreman, both of Bergholz, O. Slope opening, 6 A seam; fan ventilation; motor and mule haulage; machine mining; employs 162 loaders, 14 machine men, 69 day men.

Dec. 10th. Found the mine idle; tested the hopper scales and found them correct.

Dec. 15th, 16th, 17th. A three days' inspection: found the ventilation weak on the north side; manholes in bad condition; haulage roads dirty and dusty, and the water walls on 7 east in dangerous condition, with the release pipe through the wall closed. Ordered the ventilation increased, manholes made at proper distance, and dust and other matter cleaned off all haulage roads, and the release pipe through the walls on 7 east be kept open at all times.

Dec. 29th. A special inspection with Chief Inspector, J. M. Roan, Deputy Inspector R. S. Wheatley, officials of the O. & P. Coal Co. and officials of the U. M. W. of A., to investigate dangerous conditions by water from the surface. This inspection was not completed on account of Chief Deputy Inspector J. M. Roan being taken seriously ill.

HARRISON COUNTY.

SMALL MINES VISITED EMPLOYING LESS THAN TEN MEN.

Campbell.

Owned by Chas. Campbell. Located at Moorefield. Drift opening, No. 8 seam; employs 2 miners.

Johnson.

Owned by John L. Johnson, Moorefield, O. Drift opening, No. 8 seam; employs 2 men.

Brokaw.

Owned by W. R. Brokaw, Moorefield, O. Drift opening, No. 8 seam; 2 miners employed.

Ford.

Owned by J. W. Ford, Moorefield, O. Drift opening, No. 8 seam; 2 miners employed.

Mills.

Located at Moorefield, O. Owned by H. S. Mills. Drift opening, No. 8 seam; employs 2 men.

Bucey.

Owned by Charles Bucey. Located at Moorefield, O. Drift opening, No. 8 seam; employs 1 man.

TENTH DISTRICT

L. D. DEVORE, INSPECTOR.

R. D. No. 2, BELLAIRE, OHIO.

COMPOSED OF A PORTION OF BELMONT COUNTY.

(767)

HON. JOHN M. ROAN, *Chief Deputy and Safety Com., Columbus, Ohio.*

DEAR SIR:—In conformity with the usual custom and the law of the state governing the inspection of mines, I have the honor of submitting to you for your approval my sixth annual report, ending December the 31st, 1914.

The year just closed was a very unfortunate one, so far as the coal industry in the No. 8 field was concerned; all shipping mines located in my district closed down March 31st, and with the exception of three mines they continued closed the remainder of the year, which caused heavy losses to the operators and sorrow in many homes.

The three months the mines were in operation were very unfortunate ones so far as fatalities were concerned, there being eight men killed in my district in that short space of time and one later by falling through a tippie where he was employed.

The Mine Run law held responsible by the operators for the long continued idleness, in my opinion, if accepted and the full intent of its provisions carried out, would be the means of elevating mining to a much higher standard; the operators would be able to mine thousands of tons of crushed coal that would be everlastingly lost under the old system of mining; again, better and more practical men would be placed in the mines, which would mean fewer fatalities—one thing that we are all striving for.

The Liability and Compensation law which was strongly objected to in the beginning has proven to be one of the noblest laws that was ever enacted by any assembly of men. We, who daily travel the mines and see the many dangers encountered, and who are so often called upon to make an investigation into the cause of some poor unfortunate losing his life without a moment's warning, are in a position to see the real benefits of this law, knowing that the dependants at home will be cared for and not left out in the world to be taken care of by charitable institutions or to go hungry as they did in many cases before the enactment of this law.

Officials of the U. M. W. of A. and miners are to be commended for the law-abiding and peaceful way in which they have conducted themselves during the long nine months' idleness; only a short time during the month of June was there a tendency among a few of the men to violate the law, which was brought about by outside interference; however, this was soon overcome through the advice given by the officials of the U. M. W. of A., ably assisted by the chief head of the mining department.

In conclusion permit me to express my appreciation and thanks for your ever ready response, good counsel and many courtesies shown me, and through you I express my heartiest appreciation of the many kind acts shown me by your efficient clerical force.

Respectfully submitted,

L. D. DEVORE,

R. D. No. 2,, Bellaire Ohio, Inspector 10 Dist.

December 31st, 1914

NOTE:— All shipping mines reported in District No. 10 are operated in the No. 8 seam of coal which averages about 5 feet 2 inches in thickness; electrically equipped, machine mining, motor haulage, fan ventilation and all mill and domestic mines unless otherwise specified, are operated the same.

BELMONT COUNTY.

NOTE:— Rail and River Nos. 1, 2, 3 and 6 mines, are owned and operated by the Rail and River Coal Co. No. 1 and 2 are located just south of Bellaire No. 3 at Aults Crossing; transportation, C. & P. R. R.; No. 6, three miles west of Bellaire on main line of B. & O. R. R.

WILLIAM MALONEY, *Supt.*,
Bellaire, O.

Rail and River No. 1.

Drift opening. Richard Forster, Bellaire, O., Mine foreman. 264 miners and 108 day men, find employment when operating.

Jan. 27. Called to investigate a small gas feeder that had been struck.

Feb. 2d and 3d. Mine thoroughly inspected; conditions found very satisfactory.

Feb. 5th. Investigated fatal accident to Liberto Colichio, who was killed by fall of coal.

May 21. Mine idle; improving main haulage.

June 29th. Visited the mine to locate oil well that had passed down through old workings.

July 3. The mine was visited in company with J. C. Davies and Inspector Gaffney, pertaining to oil well.

July 8th and 14th. Accompanied by J. M. Roan, pertaining to strike conditions.

Sept. 30. Only monthly men working.

Dec. 23. No inspection; mine still idle; strike continues at close of year.

Rail and River No. 2.

Slope opening; 202 miners and 86 day men find employment; three visits made. John Egan, Bellaire, O., Mine Boss.

Jan. 26th. Conditions favorable except that timbering was ordered on all entries where the top was broken.

April 16th. Investigated fatal accident to Emile Morlelo, who was injured *Jan. 16th* and died *April 15th*; cause, fall of stone.

Sept. 30th. No inspection; mine idle; no one working.

Strike continues at close of year.

Rail and River No. 3.

Slope opening, 420 ft. long. O. P. Donahue, Bellaire, O., mine foreman. Three visits made; 148 miners and 58 day men employed.

Jan. 14th. Conditions very favorable except No. 11 west entry where hauling was ordered ceased at once owing to its dangerous condition.

May 11. Mine idle; extensive repairs being made; fine new steel tippie being erected, shooting down top and making extensive changes at bottom of slope;

ordered care exercised in handling explosives and to carefully warn all men before lighting shots. This work was being done by outside contractors.

Sept. 22d. Mine still idle, only four monthly men working.

No change in strike situation at close of year.

Rail and River No. 6.

Drift opening; 217 miners and 70 day men. Harry Harris, Klee, O., Mine foreman. Two visits made.

Feb. 20th. Conditions found very satisfactory except some dust had been allowed to accumulate which was ordered removed.

May 8th. Mine idle, owing to strike; no inspection; 2 to 4 monthly men working.

Strike still on at close of year.

Pultney.

Located one mile south of Bellaire. Transportation, C. & P. R. R. Slope opening. Owned and operated by the Cambria Mining Co., Toledo, O. Joseph Stoltz, Bellaire, O., Supt.; Anton Barichar, Bellaire, O., Mine Boss; 266 miners and 94 day men find employment when in operation; five visits made.

Feb. 12th and 13th. Conditions of mine favorable.

June 24th. Mine idle, monthly men keeping mine in repair.

July 8th. The mine was visited accompanied by Chief Safety Commissioner, J. M. Roan, regarding the action the men had taken in stopping the pumps.

July 23d. Pumps and fan being operated; every thing quiet.

Strike still continues at close of year.

Webb.

Located at Webb Station, transportation C. & P. R. R. Shaft opening, 89 feet deep. Owned and operated by the Cambria Mining Co., Toledo, O. This is a new mine and one of the finest equipped in the state for handling coal; nothing but narrow work has been driven so far. A. Berger, R. D. No. 1, Bellaire, O., is superintendent; Joseph Nemetz, Shadyside, O., mine boss.

Jan. 23d. 44 miners and 36 day men were at work; conditions of mine good.

Feb. 5th. Investigated the cause of Joseph Malack's death, which was considered no accident.

March 5th. No inspection; men on strike.

May 25th. Mine idle; no inspection made.

June 2d. Investigated fatal accident to Edward Nevill, who was instantly killed by falling through the tippie where he was at work hanging wire.

Strike still continues at close of year.

Johnson.

Located at Johnson Station. Owned and operated by the Johnson Coal Co., Bellaire, O. Slope opening. John E. Barth, Shadyside, O., Mine Boss and Supt. 123 miners and 34 day men find employment when in operation; four visits made.

Feb. 27th. Conditions favorable, except No. 7 west entry where hauling was ordered ceased.

May 12th. Mine idle; air shaft being put down at head of main south face entry.

Sept. 22. Mine idle; no men working.

Nov. 17th. Five monthly men working. Repair work. Extensive repairs and improvements in way of new boilers and generators.

Strike still continues at close of year.

Clifford.

Located at Dille Station, transportation C. & P. R. R. Slope opening, 420 feet long. Owned and operated by the Fort Pitt Coal Co., Pittsburgh, Pa. B. H. Beatty, Moundsville, W. Va., in charge as Superintendent and Mine boss at close of year. The mine was visited 10 times during the year; 214 miners and 74 day men are employed when working.

March 23. Conditions fair.

May 6th and 19th. Examined old workings in order to locate where escaping gas was coming from old oil or gas wells; ordered drilled out and plugged as required by law.

May 28th. Gas conditions unchanged.

June 2d. Gas still coming strong from the old workings.

June 4th. Accompanied by J. C. Davies, R. S. Wheatley, Hugh Gaffney and W. H. Werker, orders given to reinforce the seals, attach gas pipes and extend them to a drill hole so as to carry the gas to the surface.

June 15th. Mine idle.

July 15th. Accompanied by J. M. Roan; on this visit orders given to fence off slope.

Aug. 28th. Orders given to operate fan so as to keep the mine clear of gas.

Sept. 22d. Fan being operated at slow speed.

No change in strike situation at close of year.

Captina.

Located at Captina. Shaft opening, 68 feet. Operated by the Captina Coal Co., Armstrong Mills, O. Transportation, O. R. & W. R. R. Five visits made; 16 miners and 8 day men. James Hall, Armstrong Mills, Supt.; William Haight, Armstrongs Mills, Mine Boss.

March 6th. Conditions not good; orders given to remove ice from escape-ment stairs and improve mine generally.

May 7th. Timbering at bottom of shaft completed and conditions very much improved.

July 7th. Conditions fair.

Sept. 9th. Conditions of mine fair; ordered no men lowered or hoisted until cages were made safe.

Nov. 9th. Conditions fair; ordered all broken timbers removed from the main entry and wiring improved.

Knob.

Drift opening. Owned and operated by the Bakewell Coal Co., Bellaire, O. Located on main line of B. & O. R. R., 1½ miles west of Bellaire. James Smith, Supt., Bellaire, O., John Atkinson, Klee, O., in charge as mine foreman at close of year. 131 miners and 39 day men find employment when in operation. Two visits made.

Feb. 18th. Conditions favorable; all main haulage timbering now being done with steel I beams.

May 18th. Mine idle; no inspection.

Strike conditions unchanged at close of the year.

Carnegie Mill.

Located at Bellaire. Owned and operated by the Carnegie Steel Co., Pittsburgh, Pa. Drift opening; coal consumed at the Bellaire Mill. B. F. Marling, Bellaire, O., Supt. and Foreman. Seven visits made. 38 miners and 19 day men are employed.

Jan. 20th, April 8th, June 19th. Conditions approved.

July 2d. Accompanied on this visit by the following gentlemen: J. C. Davies and Hugh Gaffney, of the Department; Mr. W. C. Carnahan, Mr. Bond, Mr. Siddal and Mr. Cooper, of the company; the purpose of this visit was to devise the best plan to remove a body of gas from the old workings at the head of the main entries.

Aug. 29th. Conditions very satisfactory.

Sept. 28th. Main entry section opened up; removing blocks, stumps and pillars.

Nov. 12th. Conditions very favorable. This is one of the companies and management that always endeavor to keep in advance of the law in the way of safeguarding their men.

Schick.

Located one mile west of Bellaire on main line of B. & O. R. R. Drift opening. M. J. Schick, Bellaire, O., Supt.; Edw. Conaway, Klee, O., Mine Boss. 67 miners and 23 day men find employment when operating. Four visits made.

Jan. 12th. Mine in fair condition. Frank Paul, a trapper, found to be too young, was sent out of the mine.

March 11th. Condition of mine very satisfactory on this visit.

March 16th. Investigated fatal accident to Alfredo Vanicella, who was instantly killed by fall of stone.

Oct. 13th. 7 men at work cleaning up mine; air foul; fan not running; sent them out of the mine; a large amount of territory lost, caused by the long idleness.

Neff No. 1.

Located at Neff, on Main line of B. & O. R. R. Owned and operated by the Pittsburg-Belmont Coal Co., Columbus, O. Drift opening. Franklin Neff, Neffs, Ohio, Superintendent; John Crawford. Steel, O., Mine foreman; 218 miners and 56 day men employed when in operation. Three visits made.

March 3d and 4th. Conditions found very satisfactory; the ventilation was found in first-class condition, having adopted the over-cast and regulator system of splitting the air, which was giving good satisfaction.

March 19th. This visit was made in company with J. C. Davies, William Maloney of the Rail and River Co., and William Moke of the Roby Somers Co., as they desired to familiarize themselves with the system of working.

Strike still on at close of year.

Neff No. 2.

Located at Neffs, O. Owned and operated by the same company as the No. 1 mine. Drift opening. Franklin Neff, Neffs, O., Supt.; John Lovejoy, Neffs, O., Mine Boss; 144 miners and 39 day men employed when working. Two visits made.

Jan. 8th. Investigated fatal accident to John Kačmoski, who was instantly killed by fall of stone.

March 10th. Condition of mine very satisfactory; orders given to arrange switch so as to cut power off of trolley wheels on motors when pole was down.

Lucy.

Located on Main line of B. & O. R. R., one-half mile east of Stewartsville, Ohio. Drift opening. Operated by John F. Johnson, Bellaire, O. Four visits made; 20 miners and 8 day men employed. Foster G. Watson, Bellaire, O., Supt and Mine Boss.

Feb. 17th. Conditions bad; timbering ordered on Main haulway; first east entry ordered timbered or abandon hauling through it; an additional opening ordered made if they expected to work the main south section.

May 26th. Mine idle; 4 men on repair work.

July 31st. Repairs being made to the tippie and pit mouth. This visit was made through request of Mr. Johnson to go over plans of taking down top to the lime stone at the pit mouth, which was approved.

Sept. 25th. Seven men on repair work; strike still on; mine idle.

Heinlein.

Located at Neffs, O. Drift opening. Owned and operated by the Pursglove Maher Coal Co., Cleveland, O. David Pursglove, St. Clairsville, O., Supt.; Lawrence Gardner, Neffs, O., Mine Boss.

Jan. 8th. Investigated fatal accident to James W. Opatriny.

Feb. 10th and 11th. Conditions favorable except ventilation; ordered increased.

Feb. 19th. Investigated fatal accident to Paul Zalessky who was killed by fall of stone.

May 20th. Mine idle; no men working on the inside; extensive repairs being made on the outside.

Sept. 1. Received call to go to the mine as it was on fire; arriving at the mine, met Mr. J. M. Roan, T. K. Maher and many other mine men, who informed me that the fire was out.

When in operation 252 miners and 69 day men find employment. Transportation B. & O. and W. & L. E. R. R.

Pursglove.

Located at Stewartsville, on main line of the B. & O. R. R. Drift opening. Owned and operated by the Pursglove-Maher Coal Co., Cleveland, O. Samuel Pursglove, St. Clairsville, O., Supt.; David Pursglove, Stewartsville, O., Mine Boss. 167 miners and 42 day men employed.

March 17th. Natural conditions; main south section very bad, otherwise conditions favorable.

Strike still on at close of year.

Maher.

Owned and operated by the above named company; main line of B. & O. R. R., one mile east of Glencoe, O. Shallow slope opening. Samuel Pursglove, St. Clairsville, O., Supt.; John Fox, Glencoe, O., Mine Boss. 123 miners and 43 day men employed. Two visits.

March 27th. Conditions improved; many extensive repairs.

May 27th. Mine idle; five men working on the inside, keeping the mine in order.

Strike still on at close of year.

Franklin.

Located at Stewartsville, main line B. & O. R. R. Drift opening. Operated by the Franklin Coal Co., Pittsburgh, Pa. Charlton Dixon, Stewartsville, O., Supt.; John Atkinson, Stewartsville, O., in charge as foreman until the strike took place; two visits made; 84 miners and 24 day men find employment when in operation.

Feb. 5th. Conditions favorable as they were complying with former orders in regard to removing dust and timbering.

April 2d. Mine idle; made investigation as to why injured men were not compensated as required by law.

Eleanor.

Located at Warnock, on main line of B. & O. R. R. Shaft opening, 142 ft. deep. Owned and operated by the Y. & O. Coal Co., Cleveland, O. W. A. Williams, Barton, O., Supt.; John Robson, Warnock O., Mine Boss; 4 visits made; 84 miners and 44 day men employed.

Feb. 6th. Accompanied by Chief Deputy, J. C. Davies, as one of the adjoining property owners had filed numerous complaints as to what disposal they were making of the mine water; after carefully considering the matter we found that the law, so far as the Department was concerned, was being complied with.

Feb. 26th. Mine idle; no inspection.

March 2d. Condition of mine very satisfactory considering the unfavorable natural conditions. Two sets of scales tested and found correct.

Sept. 22. Mine idle; fan being operated sufficiently to keep the mine clear. No change in strike conditions at close of the year.

Delora.

Located at Glencoe, O., on main line of B. & O. R. R. Shaft opening, 68 feet deep. Owned and operated by the Y. & O. Coal Co., Cleveland, O. Edward Lee, Glencoe, O., Supt.; John Hersh, Glencoe, O., Mine Boss. 173 miners and 64 day men employed when operating full; 4 visits.

Jan. 13th. Many improvements being made in way of ventilation and safeguarding the men.

May 29th. Mine idle; tippie cages and guides in shaft being repaired.

July 24th. Three monthly men at work timbering on main entry.

Sept. 18th. Advised them to timber the switch-back north of the main shaft as it would be a good time while the mine was idle.

Strike still on at close of year.

Cochran.

Located at Baileys Mills, main line of B. & O. R. R. Drift opening, coal about 4 ft. thick; 4 visits made. James Anglis, Supt., Baileys Mills, O.; William Beynon, Baileys Mills, O., Mine Boss; 66 miners and 81 day men employed.

Jan. 15th. Mine idle; no inspection.

Feb. 16th. Conditions bad; mine now being operated by the Bixler Ohio Coal Co., Columbus, O. Many general orders given.

Sept. 8th. Conditions anything but good, but materially improved; 90 days' time given to provide a new opening and move fan to this point.

Nov. 16th. New opening almost completed; natural conditions very much improved; orders given not to employ any more men until ventilation was increased. Operated by the Bixler-Ohio Coal Co., Columbus, Ohio.

This mine was idle five months during the strike.

Media.

Located at Baileys Mills, on main line of B. & O. R. R. Drift opening, coal 4 to 4½ feet thick. Owned by the Colburg Coal Co., Columbus, O., and operated by Edw. Lynch, Baileys Mills, O., who acts in the capacity of Superintendent; T. M. Wood, Baileys Mills, O., Mine Boss; four visits made; 94 miners and 30 day men are employed.

Jan. 15th. Conditions of mine good; cap-pieces ordered provided as required by law.

Jan. 22d. Investigated fatal accident to Archie G. Johnson, trip rider, who was caught between motor and roof while riding the front end of the motor.

Sept. 3d. Mine idle, but every thing in readiness to start.

Sept. 21. Mine in very good condition considering the long idleness they had gone through.

Edge Hill.

Located at Bellaire, transportation C. & P. R. R. Drift opening. Owned and operated by Arthur Morgan, Bellaire, O. Jacob Long, Shadyside, O., Supt.; Wilson Dorff, Bellaire, O., Mine Boss. This mine is very much on the decline, and if the strike had not taken place it would probably been abandoned by the end of the year. 58 miners and 17 day men employed at the time of suspension.

March 28th. Conditions very favorable considering the oldness and finishing up of the mine.

West Wheeling.

Located near Bridgeport, O., on C. & P. R. R. Operated by the West Wheeling Coal Co., Bridgeport, O. Drift opening. Henry Johnson, Bridgeport, O., Supt.; J. C. Johnson, Bridgeport, O., Mine Boss; 110 miners and 25 day men employed when the strike took place.

Feb. 24th. Conditions fair; orders given to protect wire as required by law.

Sept. 23d. Mine idle; no men working.

Oct. 28th. 7 miners and 5 day men at work; condition of mine good considering the long idleness they had just passed through; 30 days' time given in which to move fan to outside opening.

Aetna Standard.

Located at Aetnaville. Owned and operated by the American Sheet and Tin Plate Co., Pittsburgh, Pa. Drift opening. Furnace ventilated. William Fitzgerald, Martins Ferry, O., Supt. and Mine Boss. The mine was visited 8 times. 51 miners and 13 day men employed.

Jan. 2d. Conditions fair; ordered shields on machines made to comply with the law.

April 3d. Mine idle; no inspection.

April 7th. Ordered all entries timbered where the top was broken.

June 18th. Conditions fair; ordered cap-pieces provided as required by law.

Aug. 26. Mine idle; no inspection.

Sept. 1st. Former orders complied with and conditions very satisfactory.

Sept. 23d. Mine idle; no one working.

Nov. 13th. Mine found in very satisfactory condition, except fan ventilation was recommended in place of the furnace. Coal consumed at the mill.

Laughlin.

Located at Martin's Ferry, O. Owned and operated by the American Sheet and Tin Plate Co., Pittsburgh, Pa. Drift opening. Edw. Hite, Martins Ferry, O., Supt. and Mine Boss; coal consumed at the plant; 61 miners and 21 day men employed.

Jan. 2d. Investigated cause of the death of Steve Paul.

March 30. Ordered 2d traveling-way placed in safe condition and to keep close watch and not permit men to work under loose stone.

June 17th. Many improvements noted, such as first aid equipment and telephone system installed. Chas. Benyi persisted in working under loose stone and was taken before a Justice and fined according to law.

Aug. 25th. Conditions favorable.

Nov. 10th. Conditions found satisfactory.

It is the desire of this company to have the law strictly complied with. On this inspection the ventilation was greatly improved as they had just installed a new fan.

Whitaker Glessner.

Located at Martins Ferry, O. Owned and operated by the Whitaker Glessner Corrugating Co., Wheeling, W. Va. W. H. Kaisley, Wheeling, W. Va., Supt; Richard Walker, Martins Ferry, O., Mine Boss. Drift opening; mule haulage; 20 miners and 8 day men employed; 4 visits made.

March 31st. Conditions favorable; ordered all places where the top was broken on all entries, timbered.

June 1st. Conditions unfavorable and it was necessary to issue many orders for general improvement.

July 22d. This visit was made through the request of Mr. Kaisley, as he desired my advice regarding the placing of a new fan.

Oct. 12th. Many improvements noted and conditions very satisfactory.

DOMESTIC MINES EMPLOYING MORE THAN TEN MEN.

P. F. Gilhooly.

Located at Bellaire. Owned and operated by P. F. Gilhooly, Bellaire, O., who acts as Superintendent; Thos. Dody, Bellaire, O., Mine Boss. Drift opening; 15 miners and 4 day men.

Feb. 6th. Conditions satisfactory.

April 22d. Timbering ordered along the main haulway.

July 1st and Aug. 31st. Conditions found very satisfactory.

Nov. 5th. Mine found in good shape, except black-damp was coming into mine at the head of 3 and 4 west entries, where they had broken into old workings. This was ordered sealed off; otherwise conditions very favorable.

Progressive.

Located at Bellaire. Owned and operated by the Progressive Coal Co., Bellaire, O. Drift opening. Furnace ventilated. R. W. Hall, Bellaire, O., Supt; M. T. Garrett, Bellaire, O., Mine Boss.

Feb. 26th. Conditions favorable except 2d travelingway which was ordered made safe.

May 1 and Aug. 17th. Former orders carried out; conditions satisfactory.

Nov. 4th. Conditions fair, except 30 days' time was given to install pump and remove water from second way of escape; later, met Mr. Hall and he informed me that orders had been complied with.

Sheets.

Located at Martins Ferry. Drift opening. Owned and operated by the Sheets Coal Co., Martins Ferry, O. Jas. Ralston, Martins Ferry, O., Supt.; Edw. Miles, Martins Ferry, O., Mine Boss; four visits made; 15 miners and 2 day men are employed.

Jan. 16th. Conditions favorable.

April 10th. Wire ordered guarded where men pass under it; otherwise conditons fair.

July 6th. Former ordres complied with; orders given to provide stretchers and blankets as required by law.

Oct. 6th. Main haulage timbered in good shape; 30 days time given in which to move inside fan to the outside and brattices placed so as to carry more air to the faces of the working places; aside from these irregularities, conditions were very satisfactory.

MINES WORKING LESS THAN 10 MEN, MACHINE MINING OPERATED IN THE NO. 8 SEAM OF COAL.

Thos. Long.

Located at Bellaire. Slope opening. Thos. Long, Shadyside, O., Supt. and Mine Boss; 4 to 8 men; three visits.

March 16th, Sept. 4th, Oct. 22d. Conditions generally fair.

Koehnlne.

Located at Bridgeport, O. Drift opening. Geo. Koehnlne, Bridgeport, O., Supt.; 4 to 6 men; 4 visits made.

Feb. 14th. Conditions very bad.

July 21st. No improvements; men removed from the mine until law was complied with.

Oct. 29th. Kidd & Gable found operating this mine; Richard Kidd, Martins Ferry, O., Supt. and Mine Boss; mine being cleaned up and put in order.

Nov. 27th. Many improvements noted; 30 days given to provide map.

Ferndale.

Located at Martins Ferry. Drift opening. Operated by Woodall & Sims, Martins Ferry, O. John Sims, Supt. and Mine Boss, Martins Ferry, O.; 9 men employed; 3 visits made.

April 4th. Conditions fair.

Aug. 7th. Ordered wire placed in safe and lawful condition.

Nov. 2d. Conditions fair.

Myles McGrail.

Located at Martins Ferry. Operated by Myles McGrail, Martins Ferry, O., who is Supt. and Mine Boss. Drift opening; 4 men employed; two visits.

April 20th and Oct. 8th. Conditions found bad on both visits; 10 days time given to improve ventilation.

DOMESTIC MINES EMPLOYING LESS THAN 10 MEN OPERATING IN THE NO. 8 SEAM, PICK MINING.

Alex Neff.

Locaetd at Neffs, O. Drift opening; 4 to 5 men. Edw. Gilliam, Manager, Neffs, O. Two visits.

March 10th and Oct. 9th. This mine is kept in first-class shape at all times.

Standard Stone and Brick.

Located near McClainsville. Drift opening. Coal consumed at Brick plant. Howard Robinson, R. D. No. 2, Bellaire, O., Supt.; O. G. Covey, Bellaire, O., foreman; 9 men employed; three visits made.

April 15th. Conditions fair.

July 28th. Ordered new furnace and map provided.

Oct. 14th. A limited time given to increase ventilation and improve drainage.

J. M. Meeks.

Located at Klee, O. John Lafferty, Klee, O., Manager. Drift opening; 4 to 6 men; two visits.

April 15th and Oct. 14th. Conditions approved.

Nelan.

Located at McLainsville, O. Abandoned.

John Klee.

Operated by John E. Eberling, R. D. No. 1, Bellaire, O. Visited April 15th. 3 men. Conditions ordered improved.

R. J. Kennon.

Located 2½ miles northeast of Barnesville. Drift opening, No. 8 coal, 4 feet thick; 3 men employed. R. J. Kennon, R. D. No. 2, Barnesville, O., manager. Two visits.

April 17th, Oct. 7th. Mine in good condition; Mine Run law ordered complied with.

Ramsey and Green.

Located 3 miles west of Powhatan, O. Slope opening. Everett Green, Powhatan Point, O., Supt. and Mine Boss. Three to 6 men.

May 5th. Conditions bad; men ordered from the mine until there was a second way of escape provided.

Aug. 24th. Former orders complied with.

Thos. Warren.

Located two miles west of Bellaire, O. Three men.

May 13th. Conditions good.

John Crozier.

Located two miles west of Bellaire; 2 men.

Frank Tollett.

Located at Stewartsville, O. 2 men.

Oct. 23d. Conditions good.

James Clark.

Located at Stewartsville. 2 men.

Oct. 23d. Conditions good.

Franklin Neff.

Located near Neffs, O. 3 men.
Oct. 23d. Conditions fair.

Wm. McCoy.

Located 3 miles southwest of Barnesville.
Nov. 11th. Abandoned.

Owens.

Located $3\frac{1}{2}$ miles west of Powhattan Point. Operated by William Long.
2 men.
Aug. 24th. Conditions bad.

John Nicholas.

Located 3 miles southwest of Barnesville; 4 men.
Nov. 11th. Men removed from mine until second way of escape was provided.

Emergency.

Located at Neffs, O. Opened on the Clarence Neff property. The striking miners opened up and are working the mine in order to provide themselves with coal during the winter months.

**DOMESTIC MINES OPERATED IN THE NO. 8-A SEAM FROM $3\frac{1}{2}$
TO 5 FT. THICK. PICK MINED.**

Geo. McBurney.

Located $2\frac{1}{2}$ miles east of Barnesville; 2 to 8 men; two visits made.
May 4th and *Oct.* 16th. Conditions favorable.

Thos. Davey.

Located $1\frac{1}{2}$ miles west of Barnesville. 8 men. Thos. Davey, Barnesville, O., operator. Two visits.
April 17th. Ordered second escapement; escapement way provided and survey made.
Oct. 7th. Conditions favorable.

Lan Gallagher, Barnesville, O.

April 17th. Abandoned.

Charley Davey.

Located 2 miles east of Barnesville. Operated by Charley Davey, Tacoma, O.
6 men. Three visits made.
May 4th, *Aug.* 10th and *Oct.* 16th. Conditions of mine found favorable.

W. C. Lynn.

Located 3 miles northeast of Bethesda. Employs 8 to 10 men in winter.
Operated by W. C. Lynn, R. D. No. 2, Bethesda, O.
Sept. 29. Mine in good order. Ordered mine run law complied with.

E. D. Skaggs.

Located 3 miles northeast of Bethesda. Operated by E. D. Skaggs, Morristown, O. Eight men employed.

Sept. 29th. Mine found in first class shape.

Maloney Bros.

Located at Bellaire, O. Harry Wiley & Co., Bellaire, O., operators. Four men employed.

Nov. 19th. Conditions fair.

CLAY MINE.**Suburban Brick.**

Located at Bellaire, O. Owned and operated by the Suburban Brick Co., Moundsville, W. Va. Frank Atcheson, Bellaire, O., Supt.; John Fluhaus, same place, mine boss. Eight to 10 men find employment. Four visits made during the year. Conditions found very satisfactory at all times as it is the aim of the management when anything gets wrong to make it right at once.

NOTE:— Mines visited in districts other than my own. All inspections with the exception of the Klondyke mine, located in Guernsey County, were made in company with the District Inspector in whose district the mines were located; hence a detailed report will be given by them.

BELMONT COUNTY (District No. 9.)

Wheeling Creek.

Jan. 28th-31st and *Feb.* 9th.

Sept. 4th. Troll No. 2.

JEFFERSON COUNTY (District No. 12.)

Elizabeth.

June 23d.

JACKSON COUNTY (District No. 1.)

Superior No. 9.

Aug. 12th, 13th and 14th.

PERRY COUNTY (District No. 11.)

Sunday Creek No. 301.

Aug. 18th, 19th 20th and 21st.

GUERNSEY COUNTY (District No. 5.)

Harryette.

Nov. 23d.

Little Kate No. 1.

Nov. 24th.

Banner.

Nov. 2th.

Puritan.

Two visits *Dec.* 3d and 10th.

Blacktop.

Dec. 4th.

Buffalo.

Dec. 7th and 9th.

Blue Bell.

Dec. 8th.

Trail Run No. 1.

Dec. 15th.

Klondyke.

Located at Klondyke Station, owned and operated by the Akron Coal Co., Akron, O. William Rigbee, Supt., Cambridge, O.; Charles Moss, same place, mine boss. Slope opening. Ninety-nine miners and 34 day men employed. No. 7, coal 5 to 6 ft.

Dec. 16th. Ventilation found deficient. Instructions given how to remedy this. Wiring ordered changed in places so as to comply with the law; otherwise mine was in good condition.

Walhonding No. 2.

Dec. 17th.

Cleveland.*Dec.* 18th and 30th.**Minnehaha.***Dec.* 28th.**Little Kate No. 2.***Dec.* 29th.**Hartford.***Dec.* 31st.**NOBLE COUNTY (District No. 5).****Laura.***Dec.* 1st.**Caldwell.***Dec.* 2d.**OIL AND GAS WELLS.**

The following dates were spent in looking after wells that had been or were being drilled through the coal measures or openings in mines to see that the law was properly complied with while being drilled or on abandoning the wells.

Jan. 21st. Looked after the sealing of the Gibson No. 1, Powhatan Point.

Feb. 22d-23d. Ferguson Oil Co. wells. Armstrong Mills sealing completed the 26th and 28th.

Feb. 25th. Belle Lynn No. 1 well, Morristown.

March 5th. Toothman No. 1, Armstrongs Mills.

April 6th. R. M. Eaton No. 5, Morristown.

April 18th. Joseph Ganzer No. 1, Martins Ferry.

April 21st. S. L. Mooney No. 7, Dorsey.

April 27th-28th. Kate W. Day No. 1, Bellaire. This well had been drilled through the old workings of Schick's mine.

April 29th and 30th. Saffell Heirs No. 2, Wash. Tp., Belmont Co.

May 14th and 15th. Saffell Heirs No. 1, five miles northwest of Armstrongs Mills, Wash. Tp.

May 22d. Investigated as to the location of Line well No. 1, owned by Bellaire parties. Located on the Kennedy, Kinsey and Harris farms, as this well was to go down through the Rail & River No. 1 mine.

June 3d. Powhatan Creamery Co., Powhatan Point.

June 16th. Chas. Wright No. 2, Morristown.

June 30th. Drilling was ordered suspended on Line well No. 1, located on the Kennedy, Kinsey and Harris farms, until the law was complied with as they drilled through the open in the Rail & River No. 1 mine.

July 20th. Shipman Heirs No. 1, Wash. Tp., Belmont Co.

July 27th-29th-30th. S. B. Harper No. 1, three miles north of Jerusalem.

July 31st. Ruth A. Dewees No. 1, Morristown.

Aug. 5th and 6th. W. H. H. Graves No. 1, four miles west of Armstrong's Mills, Wash. Tp.

ELEVENTH DISTRICT

**THOMAS F. GROGAN, INSPECTOR.
HEMLOCK, OHIO.**

**COMPOSED OF PERRY COUNTY AND A PORTION OF ATHENS.
(783)**

MR. J. M. ROAN, *Chief Deputy and Safety Commissioner of Mines, Columbus, Ohio.*

DEAR SIR:—In accordance with the laws of Ohio and the custom of the mining department, I have the honor of submitting to you my annual report of the Eleventh Mining District for the year commencing January 1st, 1914, and ending December 31, 1914, inclusive.

The Eleventh Mining District was composed of Morgan, Vinton and a portion of Perry County until Sept. 17th when a change was made and Vinton County was transferred to another district. A portion of Athens County was added to the Eleventh Mining District.

During the year one hundred and thirty-eight visits were made as follows: Perry Co., 110; Morgan Co., 10; Vinton Co., 10; Jackson Co., 3; Lawrence Co., 2; Athens Co., 3.

During the year 41 days were spent in the oil fields of this district in which 18 wells were sealed; 4 sets of scales were tested, 3 weighing correct and one incorrect; 8 permanent improvements were made as follows: Two fans, 5 additional openings and one speaking tube.

I regret to note seven fatal accidents which occurred as follows:

Edward Loyd injured at Rend mine in cutting off an empty trip on tippie Feb. 6th and died Feb. 9th.

Thomas Lomax killed by fall of slate Aug. 31st in Lomax mine.

John Kochensparger killed by fall of slate in the James mine.

Oct. 16th George Cook, who was injured at Hazelton mine by fall of coal on Sept. 12th, died Sept. 21st.

Herman Eppley, driver who was killed by being run over by his trip at Rends mine Oct. 21st.

D. A. Steele, killed while opening a domestic mine near New Lexington which he intended operating himself, was caught by a fall of dirt on Sept. 9th and died Nov. 5th.

John F. Duffy was injured by fall of coal Nov. 14th at Central No. 3 and died Dec. 5th.

The mines in this district will show a large reduction in the output this year as nearly all the mines were suspended from four to five months during the year. Eight mines remained suspended since April 1st and others have not worked more than half time.

In conclusion permit me to thank both miners and operators for their many courtesies extended to me and also the mine management for their many valuable suggestions. I also wish to express my sincere appreciation of the many courtesies shown me and advice given me by the office force and my colleagues; also your predecessor, J. C. Davies, and yourself.

Respectfully submitted,

THOS. F. GROGAN,
*Inspector Eleventh District,
Hemlock, Ohio.*

PERRY COUNTY.

Chapman (No. 1 and 2 openings.)

Located one mile west of Moxahala, O., on a branch of the T. & O. C. R. R. Operated by the Perry County Coal Co. of Moxahala, O. H. N. Rose, Supt.; James Fleming, mine boss, both of Moxahala, O. No. 1 is a slope opening to the No. 6 seam, $3\frac{1}{2}$ ft. thick; fan ventilation; machine mining; motor haulage; employing 30 loaders, 4 machine men and 8 day men. No. 2 is a drift opening to the same seam, $3\frac{1}{2}$ ft. thick; fan ventilation; machine mining; motor haulage; employing 78 loaders, 12 machine men and 23 day men. Four visits were made, Feb. 12th, Sept. 29th, Nov. 9th and Dec. 7th.

Nov. 9th. Found that long wall machine being installed on the north or No. 1 side of mine; they were also in readiness to try out the long wall system of mining in one set of entries; this, however, will be closely watched as it is the first work of this kind in the No. 6 seam in this county. This mine was suspended for five months during the year and was found in good condition on all visits.

Dixie.

Located at Dixie, O., on B. & O. R. R. Operated by the Upson Coal & Iron Co. of Newark, O. John Bell, Supt.; C. E. Stevenson, mine boss, both of Dixie, O. Drift opening to the No. 6 seam, $3\frac{1}{2}$ ft. thick; fan ventilation; machine mining; motor haulage; employs 63 loaders, 8 machine men and 22 day men. Three visits were made, March 13th, March 31st and Sept. 23d.

March 13th. Mine was idle. No inspection was made. On other visits mine was in fair condition. This mine was suspended from April 1st until Sept. 1st.

Central No. 3.

Located at New Straitsville, O., on the H. V. R. R. Operated by the Hocking Block Coal Co. of New Straitsville, O. Fred Weymueller, Supt.; John Achaur, mine boss, both of New Straitsville, O. Drift opening to No. 6 seam, 8 ft. thick; fan ventilation; machine mining; motor and horse haulage; Employs 126 loaders, 12 machine men and 44 day men. Four visits were made, Feb. 18th, July 27th, Dec. 3d and Dec. 9th.

July 27th. Found some wire in manway down, and the trip men not using proper marker on trips. Ordered the wire repaired and proper marker used on trips. Those orders found complied with on my visit on Dec. 3d when T. J. McLeish had succeeded Fred Weymueller as Supt. Found some of the powder had been moved from the switch by drivers in empty cars after the power was on. This was ordered stopped at once.

Dec. 9th. Visited this mine on account of fatal accident of John F. Duffy, who was injured by a fall of coal on Nov. 14th and died on Dec. 5th.

Corning No. 26.

Located $\frac{1}{2}$ mile south of Corning on K. & M. R. R. Operated by the Corning Mining Co. of Toledo, O. Al. Berger, Supt. and J. H. Millre, mine boss, both of Corning, O. Slope opening to No. 6 seam, 4 to 6 ft. thick. Visited this mine on March 2d and found mine suspended. Mine remained suspended during the remainder of year.

San Toy No. 1.

Located at San Toy, O., on B. & O. R. R. Operated by the San Toy Coal Co., Chicago, Ill. John Filmore, Supt.; Gus Beaver, mine boss, both of San Toy, O. Shaft opening 185 ft. to No. 6 seam, $3\frac{1}{2}$ ft. thick; fan ventilation; machine mining; motor haulage; employs 134 loaders, 24 machine men and 55 day men. Two visits made, Oct. 1st and Oct. 2d.

Oct. 1st. Examined the safety catches on cages and tested the scales; the scales were somewhat out of order but were repaired and weighing correctly before leaving the mine. Ordered the guides and safety catches repaired on south cage and no men to be hoisted on same until repaired.

Oct. 2d. Inspected the mine which was idle; ordered the wiring at different points in the mine put in proper condition; also the steps in second opening repaired. This mine was suspended from Jan. 1st until the middle of August.

San Toy No. 2.

Located 1 mile west of San Toy on B. & O. R. R. Operated by the same company as the No. 1 mine. John Filmore, Supt.; Lou Wilcox, mine boss, both of San Toy, O. Shaft opening 215 ft. to the No. 6 seam, $3\frac{1}{2}$ ft. thick; fan ventilation; machine mining; motor and pony haulage; employs 160 loaders, 20 machine men and 44 day men. Two visits made, Feb. 3d and March 10th.

Feb. 3d. Found the haulageways very dusty; also the safety catch on north cage not in working order. Ordered dust sprinkled and removed; also safety catch repaired before using to lower or hoist men.

March 10th. Found ice frozen at bottom of airshaft; ordered same removed; also volume of air increased at inlet. A sprinkler had been installed and they were taking care of the dust throughout the mine which is rather dusty in some entries. This mine suspended in April 1st and remained so during the year.

Essex.

Located 2 miles north of Carrington, O., on a branch of the Z. & W. R. R. Operated by the Hanna Essex Coal Co. of New Straitsville, O. H. H. Essex of New Straitsville, Supt.; Eugene Essex of Hemlock, O., mine boss. Drift opening to the No. 6 seam, 5 ft. thick; fan ventilation; machine mining; motor and horse haulage; employs 47 loaders, 4 machine men and 17 day men. Three visits made, Feb. 16th, July 7th and Nov. 12th.

Feb. 16th. Found conditions fair; also on both other visits; this mine was suspended from April 1st until Nov. 13th, during which time one of the best equipped tipples in this part of the country was built.

Murray Hemlock.

Located at Hemlock, O., on the Z. & W. R. R. Operated by the Murray Hemlock Coal Co. of Hemlock, O. George Brooker of Hemlock, O., has supervision. Slope opening to No. 6 seam, 6 ft thick; fan ventilation; rope and horse haulage; pick and machine mining; employs 2 machine men, 28 loaders and 6 day men.

Feb. 26th. Found mine idle. No inspection made.

March 4th. Found mine in poor condition. Ordered stoppings repaired on second west entry, cap pieces provided and machine shielded; also furnace enlarged or fan provided.

June 25th. Found mine in poor condition. Ordered water removed from track, slate taken down on second west entry at No. 2 room, guard put on east side of tipple, steps in tipple repaired and test weights provided.

July 29th. Found mine improved, fan installed, but stoppings not completed. Ordered men out of second west cutoff on account of poor ventilation.

Nov. 11th. Found mine in fair condition. This mine is now nearly all pillar work and on account of the nature of the top is more dangerous. I ordered mine boss to have a competent man to visit every working place each day to see that men are provided with timber and that places are properly timbered. This mine has been suspended since Dec. 1st. It was also suspended two months during the spring.

S. C. No. 268.

Located one mile north of Rendville, O., on T. & O. C. R. R. Operated by the S. C. Co., Columbus, O., Andy Wilson, Supt.; Arch Wilson, mine boss, both of Corning, O. Slope opening to No. 6 seam, 12 ft. thick; fan ventilation; motor and horse haulage; pick and machine mining; employs 14 machine men, 180 loaders and 68 day men.

Feb. 9th. Ordered dust sprinkled and removed from northwest haulway and ventilation increased in 14 cutoff.

Oct. 14th. Found mine in good condition except the second opening, which was covered with water; this made it impossible for travel. Ordered this traveling way put in condition in 60 days. This mine was suspended nearly five months during the year and is still suspended at the closing of the year.

S. C. No. 301.

Located at Congo, O., on Z. & W. R. R. Operated by the S. C. Co. of Columbus, O. J. J. Murray, Supt.; William Wright, mine boss, both of Congo, O. Shaft opening to No. 6 seam, 12 ft. thick; fan ventilation; machine mining; motor and horse haulage; employs 24 machine men, 280 loaders and 84 day men. Fourteen visits were made.

June 13th. Visited mine to investigate the death of Mike Takosh, aged 8 years and Andy Getsa, aged 27 years, who were overcome with escaping gas in shaft over fourth north entry on June 11th.

June 22d. Visited the mine to procure samples of escaping gas at main-way and fourth north entry.

Aug. 7th. Visited the mine in company with Chief Deputy and Safety Commissioner J. M. Roan to make arrangements to reopen the mine.

Aug. 17th. Visited the mine by orders of Chief Deputy J. M. Roan, who with his assistant, J. C. Davies, had already arrived with the mine rescue car. Inspectors Ginnan, Albaugh and Gaffney arrived on Aug. 17th and Devore, Wheatley, Lewis and Werker arrived on Aug. 18.

Aug. 17th, 18th and 19th were spent in setting fan and opening shafts on first and third north entries; this work was completed on Aug. 20th. After shafts were opened and fan started, Chief Deputy J. M. Roan and Inspector Devore made an inspection of shaft and condition at and around the bottom to determine what course to pursue to explore the fire zone. They decided that the helmets would be used and at once started to organize for the exploration. Inspector Devore was given charge of the exploring party. Devore, Wheatley and Grogan were to make the inspection of the fire zone, while Chief Deputy J. M. Roan was to act as signal between those making the inspection and the other inspectors who were held in readiness should assistance be needed; this, however, was not necessary as the exploring party was back to the shaft in forty-five minutes after finding the fire had been smothered out.

Aug. 24th, 25th, 26th and 27th. Visited this mine to help remove the black damp by temporary stoppings and also to note conditions.

Sept. 3d. Visited the mine and found that it would be some time before the mine could start on account of water.

Sept. 30th. Inspected mine and found it in fair condition to resume work. This was done Oct. 1st.

S. C. No. 302.

Located at Congo, O., on Z. & W. R. R. Operated by the S. C. Co., Columbus, O. A. B. Penman, Supt.; Ed. Woods, mine boss, both of Congo, O. Shaft opening to No. 6 seam, 12 ft. thick; fan ventilation; machine mining; motor and horse haulage; employs 18 machine men, 218 loaders and 59 day men.

March 9th. Inspected the north side of mine which was in fair condition.

Nov. 25th. Inspected mine and found it in good condition. This mine was suspended four months during the year and is suspended at present.

S. C. No. 9.

Located at Carrington, O., on the Z. & W. R. R. Operated by the S. C. Co. of Columbus, O. J. H. Wile, Supt.; George Hodgenson, mine boss, both of Hemlock, O. Drift to No. 6 seam, 6 ft. thick; fan ventilation; motor and horse haulage; machine mining; employs 84 loaders, 8 machine men and 36 day men. Three visits made, Jan. 22d, Sept. 14th and Nov. 4th.

Jan. 22d. Found some bad timbers on haulageway which I ordered repaired. Also found some rooms that were driven their limit without breakthroughs; these were stopped until breakthroughs were made.

Sept. 14th. Found more decayed timber on haulageway; also wire in bad shape at same place. Ordered timber replaced and wire repaired, which has been reported done.

Nov. 4th. Called to mine to examine scales which were not correct, but were repaired by scale man the same afternoon and work resumed the following day. This mine was suspended from April 1st until Aug. 1st and is at present suspended.

Greely Nos. 3 and 4.

Located one mile east of McCuneville, O., on a branch of the B. & O. R. R. Operated by the Peabody Coal Co. of Chicago, Ill. Rube McLean of Shawnee, O., Supt.; Lon Tague of New Lexington, R. R. No. 4, mine boss. Drift opening to No. 6 seam of coal, $3\frac{1}{2}$ ft. thick; fan ventilation; machine mining; motor and mule haulage; both openings; employs 85 loaders, 20 machine men, 42 day men. Two visits were made.

March 3d. Found mine suspended.

April 17th. Visited on account of hearing that mine was being abandoned; this report was unfounded.

Lilly.

Located one mile east of New Lexington, O., on the C. A. & C. R. R. Operated by the Weaver & Duffrain Coal Co., Bucyrus, O. L. S. McNeal of New Lexington, has supervision. Drift opening to No. 5 seam, 4 ft. thick; fan ventilation; rope and mule haulage; machine mining; employs 2 machine men, 19 loaders and 3 day men.

April 18th. Found mine idle and some talk of abandoning it.

April 23d. Found mine abandoned.

June 24th. Visited the mine to see if it would be possible to survey the mine and have a map made of same. I found fan removed and mine partly filled with water, making it impossible to enter.

Rend.

Located at Crooksville, O., on the C. A. & C. R. R. Operated by the Standard Hocking Coal Co., Chicago, Ill. N. B. Snell, Supt.; Joseph Murphy, mine boss, both of Crooksville, O. Drift opening to No. 6 seam, $3\frac{1}{2}$ ft. thick; fan ventilation; machine mining; motor and horse haulage; employs 18 machine men, 81 loaders and 40 day men.

Jan. 6th. Found mine in fair condition except some refuse in breakthroughs in room which I ordered removed.

Feb. 10th. Visited this mine on account of fatal accident of Ed. Loyd, who was injured on Feb. 6th by being caught with empty trip on tippie, and died on Feb. 9th.

July 28th. Found mine idle. No inspection made.

Sept. 4th. Found mine in fair condition. Ordered the riding of front end of trips by drivers discontinued.

Oct. 22d. Investigated the fatal accident of Herman Eppley, driver who was run over by his trip of two cars at No. 4 room on 4th south entry on October 21st. Deceased was dead when found, and from the conditions of the entry at this place, and the manner in which he was caught, it looked as if he were trying to catch the front end of trip and fell under the front car. This mine was suspended three months during the year.

Keystone No. 1.

Located at Crooksville, O., on the C. A. & C. R.R. Operated by the Zanesville Coal Co., Zanesville, O. Thomas Opie of Crooksville, O., Supt.; Thos. Ward of McLuney, mine boss. Drift opening to No. 6 seam, $3\frac{1}{2}$ ft. thick; fan ventilation; machine mining; motor and mule haulage; employs 14 machine men, 75 loaders and 33 day men.

March 18th. Found mine in poor condition. Ordered ventilation increased in 9×10 south, water and mud removed from haulageways, breakthroughs made uniform and kept free from refuse, and wire hung according to law.

Nov. 10th. Found the mine much improved. George Jones having taken Mr. Ward's place as mine boss. Ordered volume of air increased in 9×10 south entries. This mine was suspended for nearly five months during the year.

Hazelton.

Located at Shawnee, O., on Z. & W. R. R. Operated by the Pan American Coal Co., Zanesville, O. David R. Jones of Shawnee, O., has supervision. Drift opening to No. 6 seam, 6 ft. thick; machine mining; fan ventilation; horse haulage; employs 3 machine men, 23 loaders and 5 day men.

March 19th. Found mine suspended.

Aug. 10th. In poor condition. Ordered water removed from haulageway, wire put in proper condition; also requested a man to look after loose slate on haulageway each day.

Oct. 6th. Was called to mine on account of bad air in second west cutoff. Ordered door hung in second west cutoff and one at new opening; also ordered mine boss not to operate machine until it was properly shielded.

Oct. 21st. Visited to investigate the fatal accident of George Cook, who was injured on Sept. 12th pulling down coal and died Sept. 21st of his injuries.

Bear Run No. 1.

Located at Goston, O., on the C. A. & C. R. R. Operated by W. A. Gosline & Co. of Toledo, O. E. W. Lewis, Supt.; H. G. Wilson, mine boss, both of New

Lexington, O. Shaft opening to No. 6 seam, $3\frac{1}{2}$ ft. thick; fan ventilation; machine mining; motor and mule haulage; employs 12 machine men, 60 loaders and 35 day men.

Jan. 30th. Found mine in fair condition except the wire on main haulage-way and ordered same put in proper condition.

Oct. 16th. Found mine suspended and was still idle at the close of year.

Monsarrat.

Located near Hemlock, O., on the Z. & W. R. R. Operated by C. R. Monsarrat & Co. of Hemlock, O. C. R. Monsarrat of Hemlock, O., has supervision. Slope opening to No. 6 seam, 6 ft. thick; fan ventilation; machine mining; rope and horse haulage; employs 4 machine men, 38 loaders and 10 day men.

March 11th. Found mine in fair condition. Ordered gasoline pump removed from mine, breakthroughs in rooms made uniform and kept free from refuge.

July 18th. Mine in fair condition. Ordered steps in second opening and map filed with department; also to provide fan as furnace had to be removed from second opening.

Nov. 13th. Mine in fair condition. Fan installed. Ordered two stoppings between 3 and 4 W. and two between 1 and 2 N. This mine was suspended three months during the year.

Wigwam.

Located at Bristol, O., on B. & O. R. R. Operated by Blair & Richards of Shawnee, O. Thomas Richards of Shawnee, O., has supervision. Drift opening to No. 6 seam, $3\frac{1}{2}$ ft. thick; fan ventilation; machine mining; mule haulage; employs 2 machine men, 9 loaders and 4 day men.

Jan. 5th. Mine in poor condition. Ordered airway cleaned, breakthroughs made uniform and kept free from refuse, belt on generator guarded and stretcher and blankets provided. Mine closed down on Jan. 15th and remained suspended during the year.

Sines Bros. No. 2 and 3.

Located at New Straitsville, O., on the H. V. R. R. Operated by Sines Bros. & Co. of New Straitsville, O. Robert Sines of New Straitsville, O., has supervision. Both mines are drift openings to No. 6 seam, 8 ft. thick; natural ventilation; machine mining; engine and horse haulage; both mines employes 2 machine men, 8 loaders and 3 day men. The same men working one day at one mine and the next day at the other. Two visits made.

March 24th. Idle; no inspection.

June 26th. Found mine in fair condition.

Jones Bros.

Located at New Straitsville, O., on the H. V. R. R. Operated by the Jones Coal Co. of New Straitsville, O. John E. Jones of New Straitsville, O., has supervision. Drift opening to No. 6 seam, 12 ft. thick; natural ventilation; machine mining; motor and horse haulage; employs 4 machine men, 34 loaders and 10 day men.

Jan. 2d. In fair condition. Ordered belt wheel guarded on generator engine, trolley wire put in proper condition and a man to inspect motor haulageway each day.

June 30th. Found mine idle.

July 23d. Mine in fair condition except trolley wire; ten days' time given to repair same.

Dec. 5th. Found idle. This mine was suspended nearly three months during the year.

Blue Jay.

Located at Burr Oak, O., on the K. & M. R. R. Operated by the Blue Jay Coal Co. of Wellston, O. E. S. Dempsey, Supt.; T. M. Yeager, mine boss, both of Corning, O. Slope opening to No. 7 seam, 4 ft. thick; machine mining; fan ventilation; mule haulage; employs 2 machine men, 12 loaders and 5 day men. One visit was made on Dec. 21st.; found mine in good condition.

X. X.

Located at Shawnee, O., on the Z. & W. R. R. Operated by D. C. Jenkins & Co. of Shawnee, O. W. K. Redfern of Shawnee, O., has supervision. Drift opening to No. 6 seam, 7 ft. thick; fan ventilation; machine mining; motor and horse haulage; employs 2 machine men, 8 loaders and 2 day men.

Feb. 24th. Found mine in fair condition.

July 15th. Conditions fair. Ordered mine stopped until the law governing the weighing of coal was complied with.

Nov. 30th. Found mine in fair condition. This mine was suspended nearly three months during the year.

SMALL MINES VISITED IN PERRY COUNTY.

Saltlick.

Located at Rock Run, O., on the B. & O. R. R. Operated by the Poston Coal Co. of New Straitsville, O. Mine employs 6 pick miners and one day man. Donald Poston of New Straitsville, O., has supervision. One visit was made, March 6th. Mine was in fair condition for cropline work.

Rock Run.

Located at Rock Run, O., on the B. & O. R. R. Operated by the Rock Run Coal Co. of New Straitsville, O. A. L. Groff of New Straitsville, O., has supervision. Mine employs 8 pick miners and one day hand. Two visits were made.

March 6th. Found mine in fair condition.

July 31st. Ordered guard rail put on tipple.

Ironclay Coal.

Located at Rock Run, O., on B. & O. R. R. Operated by the Ironclay Brick Co. of Columbus, O. William Davitt of Shawnee, O., has supervision. Mine employs 10 pick miners and 2 day men. One visit was made, May 7th. Found mine in fair condition for pillar and cropline work.

O. M. & M. No. 1.

Located at Shawnee, O., on the Z. & W. R. R. Operated by the Claycraft Brick & Mining Co. of Columbus, O. William Griffith of Shawnee, O., has supervision. Employs 3 pick miners and 1 day man. One visit was made, May 11th. Found mine in fair condition.

O. M. & M. No. 2.

Located at Shawnee, O., on the Z. & W. R. R. Operated by the same company as No. 1 and is under the same supervision. Employs 6 pick miners and 1 day man. One visit was made, May 11th. Found mine in poor condition but as they were drawing pillars and retreating, there was little chance to improve conditions.

Kritz.

Located at Shawnee, O., on the Z. & W. R. R. Operated by Henry Kritz, Jr., of Shawnee, O., who has supervision. Mine employs 6 pick miners and 1 day man. One visit was made, May 25th. Mine was in fair condition for pillar and cropline work.

Ironpoint.

Located at Shawnee, O., on the B. & O. R. R. Operated by the Ironpoint Coal Co. of Shawnee, O. David Richards of Shawnee, O., has supervision. Employs 3 pick miners and 1 day man. One visit was made, May 27th. Found mine in fair condition.

Frief No. 1.

Located at New Straitsville, O., on the H. V. R. R. Operated by T. J. Frief of New Straitsville, O., who has supervision. Employs 3 pick miners. On June 2d mine was in fair condition.

White No. 39.

Located at New Straitsville, O., on the H. V. R. R. Operated by the White Coal Co. of New Straitsville, O. Charles White of New Straitsville, O., has supervision. On June 2d found mine idle. No inspection made.

Burns No. 1.

Located at Rendville, O., on T. & O. C. R. R. Operated by Hugh Burns of Corning, O., who has supervision. Employs 2 pick miners and 1 day man. On June 3d found mine in fair condition.

Tom Greene.

Domestic mine located five miles south of Somerset, O. Operated by T. A. Greene of Somerset, O., who has supervision. Employs pick miner. On July 13th mine was in fair condition.

Greene No. 5.

Located five miles south of Somerset, O. Operated by Harry Greene of Somerset, O., who has supervision. Employs 1 pick miner. On July 13th found mine in fair condition. This is also a domestic mine.

Robison No. 5.

Located five miles north of Somerset, O. Operated by I. E. Robison & Son. C. C. Robison of Somerset, O., has supervision. Employs 3 pick miners. On July 14th found mine in fair condition. Ordered second opening and map filed. This is a domestic mine.

James.

Located at Rock Run, O., on the B. & O. R. R. Operated by the James Coal Co. of Shawnee, O. W. R. James of Shawnee, O., has supervision. Em-

plays 3 pick miners and 1 day man. Visited mine on Oct. 19th on account of fatal accident of John Kochensparger, who was killed by fall of slate on Oct. 16th. Mine was in fair condition.

Back Diamond.

Located at Rock Run, O., on the B. & O. R. R. Operated by the Black Diamond Coal Co., New Straitsville, O. Gus Windfordner of New Straitsville, O., has supervision. Employs 5 pick miners and 1 day man. On Nov. 6th found mine in fair condition.

Sentinel No. 117.

Located at Rock Run on the B. & O. R. R. Operated by the Hocking Product Co. of Columbus, O. R. L. Legg of New Straitsville, O., has supervision. Employs 6 loaders and 1 day man. The loaders cutting their own coal. On Nov. 6th found mine idle. No inspection.

No. 113.

Located at Rock Run on the B. & O. R. R. Operated by L. Loyd & Co. of New Straitsville, O. L. Loyd of New Straitsville, O., has supervision. Employs 8 pick miners and 1 day man. On Nov. 6th mine was idle. No inspection. This mine was suspended most of the year.

Steele.

Located one mile south of New Lexington, O. Operated by D. A. Steele for domestic purposes. D. A. Steele of Bristol, O., had supervision. Mine was being opened by Mr. Steele but had not found the coal seam, when Mr. Steele was caught by a fall of dirt on Sept. 9th and died of his injuries on Nov. 5th. On Nov. 18th I visited this mine to investigate the fatal accident of Mr. D. A. Steele.

CLAY MINES, PERRY CO.

Impervious Clay.

Located at New Straitsville, O., on the H. V. R. R. Operated by the Impervious Brick Co., New Straitsville, O. J. D. Martin, Supt.; John Thompson, mine boss, both of New Straitsville, O. Fan ventilation; horse haulage; clay is shot off the solid; two drilling machine men; employs 9 miners and 2 day men. Two visits were made.

May 2nd and Oct. 30th. Mine was in good condition on both visits.

Ironclay.

Located at Rock Run, O., on the B. & O. R. R. Operated by the Ironclay Brick Co. of Columbus, O. O. F. Grimes, Supt.; C. M. Starner, mine boss, both of Shawnee, O. Drift opening to No. 6 seam of clay, 7 ft. thick; fan ventilation; horse haulage; clay is shot off the solid; employs 2 drilling machine men, 14 loaders and 9 day men.

March 12th. Found idle.

May 7th. Mine in fair condition. Ordered mud and water removed from traveling way and wire removed from ladder in second opening.

July 24th and Dec. 2d. Found mine in good condition.

O. M. & M. Clay.

Located at Shawnee, O., on Z. & W. R. R. Operated by the Claycraft Brick & Mining Co. of Columbus, O. W. D. Richardson, Supt.; Charles Summers, mine boss, both of Shawnee, O. Shaft opening to No. 8 seam of clay, 7 x 8 ft. thick; fan ventilation; horse haulage; clay is shot off the solid; employs 26 loaders and 3 day men.

Feb. 17th. Found mine idle.

April 28th. Found mine in fair condition. Ordered steps repaired in fan shaft, fan to run during the noon hour and the law complied with in regard to the hoisting of men.

Aug. 6th. Visited in company with Chief Deputy J. M. Roan. No inspection was made.

Sept. 28th. Found mine in fair condition. Ordered loose slate taken down on traveling way to airshaft; also an anemometer, with which to measure the air.

Shawnee Flash Brick.

Located at Shawnee, O., on the Z. & W. R. R. Operated by the Shawnee Flash Brick Co. of Columbus, O. E. M. Starner, Supt.; G. C. Davis, mine boss, of Shawnee, O. Shaft opening to No. 8 seam from 6 to 8 ft. thick; fan ventilation; horse haulage; clay is shot off the solid; employs 11 miners and 1 day man.

May 1st. Ordered mud removed from slope and shaft bottom, permanent stoppings on main airway and blankets.

May 25th. Inspected slope and found that it had not been properly cleaned. Ordered dirt removed from slope and map filed.

July 10th. In fair condition. Ordered anemometer provided.

Nov. 24th. Found mine suspended. Remained suspended during the year.

MORGAN COUNTY.

Rose.

Located at Tropic, O., on the Z. & W. R. R. Operated by Crown Coal Co. of Wellston, O. George Carding, Supt.; J. N. Miller, mine boss, both of Rose Farm, O. Drift opening to No. 6 seam, $3\frac{1}{2}$ ft. thick; fan ventilation; machine mining; motor haulage; employs 12 machine men, 70 loaders and 25 day men.

March 23d. Found idle.

Sept. 9th. Ordered brick stoppings continued on main airway and dust sprinkled and removed from second east entry on south.

Dec. 12th. Found idle. Mine worked very little during the year.

Tropic.

Located at Tropic, O., on the Z. & W. R. R. Operated by the Tropic Mining Co. of Toledo, O. C. E. Spring, Supt.; R. F. Jachaus, mine boss, both of Rose Farm, O. Drift opening to No. 6 seam, $3\frac{1}{2}$ ft. thick; employs 28 machine men, 160 loaders and 76 day men.

Feb. 13th. Found north side of mine in fair condition.

Feb. 27th. South side in fair condition. Ordered refuse removed from break-throughs in rooms and dust sprinkled and removed from No. 3 W. cutoff.

July 30th. Called to mine on account of complaint of bad air in south side of mine. After inspecting each working place found that there was a sufficient amount of air for the men employed in that part of the mine, the mine being idle on this visit. Returned on Aug. 1st, the mine was being operated on this day and the conditions satisfactory.

Sept. 8th. Found north side of mine in fair condition. Ordered drivers stopped from riding front end of trips.

Dec. 12th. Idle; this mine was suspended nearly four months during the year.

VINTON COUNTY.

Clarion.

Located at Clarion, on the H. V. R. R. Operated by the Maple-Gallia Coal Co. of Columbus, Ohio. George Coyle, of Clarion, has supervision. Slope opening to No. 4 seam, 4 ft. thick; fan ventilation; machine mining; mule haulage; employs 26 loaders, 4 machine men and 15 day men.

Jan. 27th. Found mine in fair condition.

Lomax.

Located near McArthur, Ohio. Operated by Lomax Bros., McArthur, Ohio. Thomas Lomax of McArthur, has supervision. Drift opening to No. 4 seam, 4 ft. thick. Visited mine on September 2d on account of fatal accident to Thomas Lomax, who was killed by a fall of slate in a new opening which they were making.

Elk Fork No. 1.

Located at Elk Fork, on the H. V. R. R. Operated by the Elk Fork Coal Co. of Wellston, Ohio. George B. Davis, Supt., and Albert Nicholas, Mine boss, both of Wellston, Ohio. Shaft opening to No. 2 seam, from 3 to 4 ft. thick. Fan ventilation; machine mining; motor and mule haulage; employs 2 machine men, 22 loaders and 16 day men.

Jan. 28th. Ordered loose slate taken down on main haulway and anemometer provided.

Puritan No. 6.

Located two miles east of Hamden, Ohio, on H. V. R. R. Operated by the Puritan Brick Co. of Hamden, Ohio. F. C. Morgan, Hamden, Ohio, Supt.; H. K. Williams, Wellston, Ohio, Mine boss. Drift opening to No. 6 seam, 4 ft. thick. Fan ventilation; machine mining; mule haulage; employs 2 machine men, 17 loaders and 4 day men. c

March 26th and July 3d. Mine in good condition.

Lawler.

Located at Minerton, O., on H. V. R. R. Operated by J. L. Lawler & Son, Columbus, O. George Steele, Minerton, O., has supervision. Drift opening to No. 4 seam, 4 feet thick; employs 6 machine men, 34 loaders and 10 day men.

Jan. 26th. Idle; no inspection.

This mine is ventilated by a fan and has motor and mule haulage. The coal is machine mined.

McDonald.

Located near Clarion, on the H. V. R. R. Operated by the Twentieth Century Coal Co., New Straitsville, O. J. E. McHaffey, Hawks P. O., has supervision. Slope opening to No. 4 seam, 4 ft. thick. Fan ventilation; machine mining; rope and mule haulage; employs 4 machine men, 25 loaders and 10 day men.

Jan. 27th. Ordered water removed from bottom; broken timbers on main opening renewed; volume of air increased at intake stoppings, and doors repaired, or a new opening made which they were talking of making.

Tompkins.

Located at Minerton, O., on the H. V. R. R. Operated by the Quinn Coal Co., Minerton, O. J. J. Murphy, Supt.; Hiram Moore, Mine boss, both of Minerton, O. Drift opening to No. 4 seam, 4 ft. thick; fan ventilation; mule haulage; employs 30 pick miners and 9 day men.

Jan. 26th. Ordered second opening on south side of mine as the one on the north had become useless on account of squeeze; also ordered stoppings repaired and stretchers, blankets and anemometer provided.

CLAY MINES, VINTON COUNTY.**Puritan Shale No. 2.**

Located two miles east of Hamden, O., on H. V. R. R. Operated by the Puritan Brick Co., Hamden, O. F. C. Morgan, Hamden, O., Supt.; A. K. Williams, Wellston, O., Mine boss. Drift opening to No. 2 seam of clay, 8 ft. thick; fan ventilation; motor and horse haulage. and they shoot the clay off the solid; employs 2 drilling machine men and 10 loaders. Two visits were made.

March 26th and July 3d. Found mine in good condition.

ATHENS COUNTY.

Palos.

Located at Palos, O., on the K. & M. R. R. Operated by the W. P. Rice Mining Co., Dayton, O. Frank Gilbreth, Supt.; C. D. Dixon, Mine boss, both of Glouster, O. Shaft opening to No. 7 seam, 4 ft. thick; fan ventilation; machine mining; motor haulage; employs 4 machine men, 43 loaders and 11 day men.

Nov. 23d. Found mine in good condition; ordered map filed with department and anemometer provided.

Federal Valley No. 1.

Located at Broadwell, O., on the M. C. & C. R. R. Operated by the Burn Coal Co., Sharpsburgh, O. F. U. James, Broadwell, O., has supervision. Slope opening to No. 8 seam, 4 ft. thick; fan ventilation; machine mining; horse and rope haulage; employs 2 machine men, 7 loaders and 3 day men.

Dec. 21st. Ordered belt guarded on generator engine, breakthroughs made uniform and kept free from refuse; also stretchers, blankets and anemometer provided.

Broadwell.

Located at Broadwell, O., on the M. C. & C. R. R. Operated by the Big Four Coal Co., Broadwell, O. Dan James, Broadwell, O., Supt. and Mine boss. Slope opening to No. 8 seam, 5 and 6 ft. thick; fan ventilation; machine mining; motor, rope and horse haulage; employs 4 machine men, 24 loaders and 7 day men.

Dec. 22d. Found the west side of mine in poor condition; ordered manway cleaned, breakthroughs made regular and kept free from refuse, and anemometer provided. The east side was in fair condition and is not developed to any extent.

The following mines were visited outside of the district during the year. A detailed report will be made by the inspector in whose district the mines are located:

Ironton Portland Cement.

Located near Ironton, O., in Lawrence county. Visited mine in company with Chief Inspector, J. C. Davis, and Inspector John Burke, on May 20th.

Cobb No. 2.

Located at Etna, O., in Lawrence county. Visited mine on May 21, in company with Chief Inspector, J. C. Davies, and Inspector, John Burke.

Superior No. 9.

Located three miles southeast of Wellston, O., in Jackson county. Visited this mine on Aug. 12th, 13th and 14th, on account of mine fire,

TWELFTH DISTRICT

ROBERT S. WHEATLEY, INSPECTOR.
SALINEVILLE, OHIO.

COMPOSED OF THE COUNTIES OF COLUMBIANA, MAHONING, AND PORTIONS
OF CARROLL AND JEFFERSON.

(799)

/

The Industrial Commission of Ohio, Columbus, Ohio.

GENTLEMEN:—I herewith submit my report of the twelfth mining district of Ohio, consisting of Columbiana, Mahoning and portions of Carroll and Jefferson counties.

During the year, 172 inspections were made, eight of them being in districts other than the twelfth. Fifteen days were spent in the oil and gas fields. Two new mines were opened, seven suspended, and three abandoned. Ten permanent improvements were noted, as follows: four fans, one second opening, three additional openings, one stairway, and one speaking tube. Four sets of scales were tested, three of them being found correct and one incorrect.

Five fatal accidents occurred in the mines of this district during the year. Two of them were caused by falls of roof, two by premature explosions of dynamite, and one by mine cars. As is usual in these cases, with ordinary foresight and proper precautions, at least four of these accidents might have been prevented.

The production in this district will show a marked decrease in comparison with the figures for 1913, due to the suspension of operations pending the negotiation of a new wage agreement and the general business depression. During the latter part of the year operators were reluctant to start negotiations for new contracts when the market was so demoralized, while consumers felt that there were some possibilities of securing further concessions as to prices. Manufacturers bought for their immediate requirements only, and in most cases these requirements were considerably below normal.

Thanking yourselves, my colleagues, and the office force for the many courtesies extended, I am

Respectfully yours,

ROBERT S. WHEATLEY.

December 31, 1914.

COLUMBIANA COUNTY.

Garside.

Located two miles east of Salineville, on a spur of the C. & P. division of the Penna. lines. Owned and operated by the Big Vein Coal Co., Cleveland, O. W. P. Crookston, Supt.; Edw. English, mine boss, both of Salineville, O. Shaft, 210 feet to No. 7 seam, 5 ft. 6 in. thick; machine mining; mule and motor haulage. Employs 140 miners and 75 day men.

Feb. 16th. Main intake at bottom of shaft was frozen up by condensation and freezing of steam used to moisten the air. During the early part of September, a creep occurred in the territory between Nos. 6 and 7 butt entries in the south section. On Sept. 9, and for some days previously, this territory was giving off a heavy inflammable gas in considerable quantity. This was probably due to the presence of crude petroleum in the strata underlying and overlying the coal, the vapor being released by fissures created by the creep. An air cours was constructed through this territory and by Sept. 22, very little gas was noticeable. The mine resumed operations on Oct. 1, after a suspension of six months.

Oct. 6th and 7th. Examined abandoned workings. Ordered loose roof in main air course taken down and the air course timbered throughout; roadways kept moistened and fine coal kept off them at all times.

December 24th. An eight-inch hole was drilled from the surface to the mine for the purpose of pumping water from the mine. The driller was not aware that he had penetrated the coal and drilled the hole 82 feet below the seam.

Dec. 28th. Witnessed the sealing of the hole below the coal.

Strabley.

Located at Salineville, on a spur of the C. & P. division of the Penna. lines. Owned and operated by Jas. S. Strabley, Salineville, O., who is also superintendent; Thos. Strabley, Salineville, O., mine boss. Drift opening to No. 7 seam, 5 ft. thick. Fan ventilation; machine mining; mule and motor haulage. Employs 30 miners and 12 day men. This is an old mine and the abandoned workings are very extensive. Considerable trouble is experienced from black damp generated in these abandoned workings. Work has been started on an air shaft at the head of the present workings and when completed should greatly improve the ventilation.

Oct. 13th. Found scales slightly out of adjustment.

Oct. 30th. Ordered wires in travelingway to escapement shaft put in good condition.

Nov. 24th. Ordered wires in right butt entry properly hung; loose roof on haulage road taken down, and water kept off traveling way.

Dec. 18th. Examined scales and found them apparently correct.

Rhea.

Located at West Point, on the Youngstown & Ohio River R. R. Operated by the Kirk-Dunn Coal Co., Cleveland, O. Wm. Dunn, Supt., Salem, O. Drift opening to the No. 6 seam, 5 ft. thick. Fan ventilation; machine mining; mule and motor haulage. Employs 75 miners and 20 day hands.

Feb. 27th. Ordered loose roof at the junction of main face and main butt entries taken down; guard rail around electric pump; laws governing transportation and handling of explosives strictly complied with; stoppings between the main intake and return constructed of non-perishable material; machines kept properly

shielded at all times; and wires protected at all points where persons or animals are required or permitted to pass under them. Many improvements have been made in and around this mine during the year. These improvements include a modern tippie and haulage system, resulting in an increased output.

Quaker Valley.

Located at Rogers, on the P. L. & W. R. R. Operated by the Elkrum Coal Co., Rogers, O. Drift opening to the No. 6 seam, 3 ft. 6 in. thick. Fan ventilation; machine mining; motor haulage. Employs 35 miners and 10 day men. Wm. Weikert, Rogers, O., has full charge. This mine was suspended during the greater part of the year.

C. & P. Clay.

Located at Lisbon, on the Erie R. R. Operated by the Card & Prosser Coal Co., Cleveland, O. Thos. Morrison, Supt.; Edw. Perkins, mine boss, both of Lisbon, O. Shaft, 30 feet to No. 3 seam of clay, 6 ft. thick. Fan ventilation; mule haulage. Employs 18 miners and 3 day men.

March 20th. Ventilation deficient throughout the workings. A fan was installed in April, greatly improving the ventilation.

Aug. 25th. Ordered main entry, between shaft bottom and weigh scales, retimbered; brattice constructed to carry ventilation to face of main entry; stopping built in No. 3 right entry, and blasting powder kept in boxes.

Nov. 21st. Visited with Assistant Chief Deputy, J. C. Davies, and found condition good.

West Pittsburgh No. 3.

Located at Teegarden, on the Erie R. R. Operated by the Card & Prosser Coal Co., Lisbon, O. Thos. Morrison, Supt., Lisbon, O. Drift to No. 7 seam, 5 ft. thick. Fan ventilation; machine mining; mule and motor haulage. Employs 35 miners and 15 day men. Suspended during the greater part of the year.

Big Walnut.

Located two miles west of Washingtonville, on the Y. & O. R. R. Operated by the Card & Prosser Coal Co., Cleveland, O. Slope to No. 3 seam, 3 ft. 3 in. thick. Fan ventilation; pick mining; rope haulage. Employed 40 miners and 15 day men. Abandoned in March.

Salem.

Located three miles east of Salem, O., on the Y. & O. R. R. Operated by the Salem Mining Co., Salem, O. Wm. Watkins, Salem, O., Supt. and Mine boss. Drift to No. 3 seam, 3 ft. 3 in. thick. Fan ventilation; machine mining; mule and motor haulage. Employs 40 miners and 20 day men.

Jan. 26th. Idle.

March 11th. Ordered shields on gear wheels of electric pump; proper tension placed on trolley wires; blasting powder kept in boxes; ventilation restored in No. 9 entry; trolley wire boarded over at cross-overs; non-perishable material used for stoppings between main intake and return; restrictions relative to the use of calcium carbide carried out; and loose roof on main haulage road taken down.

Delmore.

Located one and one-half miles west of Leetonia, on the Erie R. R. Operated by the Sterling Coal Co., Limited, Cleveland, O. John Hileman, Supt.; Daniel McGrath, mine boss, both of Leetonia. Slope to No. 3 seam, 3 ft. thick. Fan ventilation; machine mining; motor and rope haulage. Employs 35 miners and 10 day men. Suspended during a large part of the year.

State Line No. 1.

Located one mile east of East Palestine, O., on the P. F. W. & C. R. R. Operated by the State Line Coal Co., East Palestine, O. Hugh Laughlin, Supt.; Geo. Sutherin, mine boss, both of East Palestine, O. Present workings are all in Pennsylvania, the tippie and 1,800 feet of the main-haulage road being in Ohio. Outside equipment usually in good condition. Suspended during the greater part of the year.

State Line No. 3.

Located one mile east of East Palestine, on the P. F. W. & C. R. R. Operated by the National Fireproofing Co., Pittsburgh, Pa. Chas. Jones, East Palestine, O., has full charge. Drift opening to No. 7 seam of coal, 3 ft. thick, underlaid with 4 ft. of clay, which is worked in connection with the coal. Fan ventilation; mule and rope haulage. Employs 17 miners and 7 day men.

Aug. 26th. Ordered blasting powder kept in boxes; headlight carried on rope haulage trip; restrictions relative to the use of carbide, carried out.

Oak Hill Slope.

Located at Washingtonville, O., on the Y. & O. R. R. Operated by the Columbia Fire Clay Co., Cleveland, O. W. C. Simpson, Washingtonville, O., has full charge. Slope to No. 3 seam of clay, 5 ft. 6 in. thick. Fan ventilation; rope haulage. Employs 9 miners and 8 day mne.

Feb. 26th. Ordered loose roof taken down and broken cross-timbers replaced on main entry.

June 2d. Ordered guard rail constructed around sheave wheel on passway and explosives kept in boxes.

Beech Hollow.

Located two miles northeast of Salem. Operated by Reese Bros., Salem, O. T. G. Reese, Salem, O., has full charge. Slope opening to No. 3 seam, 3 ft. 3 in. thick. Furnace ventilation; pick mining; mule and rope haulage. Employs 4 to 10 miners.

Walnut Hill.

Located at Washingtonville, O., on the Y. & O. R. R. Operated by J. B. Smith, Washingtonville, O. J. G. Smith, Washingtonville, O., has full charge. Slope to No. 3 seam, 3 ft. thick. Fan ventilation; machine mining; mule and rope haulage; employs from 5 to 10 miners.

Feb. 26th. Ordered guard rail around belt in power house and map extended.

Neiheisel.

Located one mile east of Leetonia, O., on the P. F. W. & C. R. R. Operated by the Neiheisel Coal Co., Leetonia, O. F. J. Neiheisel, Supt.; Henry Walser, mine boss, both of Leetonia. Slope to No. 3 seam, 3 ft. thick. Fan ventilation; machine mining; mule and rope haulage. Employs 8 miners and 3 day men. Condition usually reasonably good.

Reed.

Located one mile west of Lisbon, O. Operated by Lewis & Evans, Lisbon, O. Thos. Evans, Supt.; Wm. Lewis, mine boss, both of Lisbon, O. Drift opening to No. 3 seam, 3 ft. 3 in. thick. Pick mining; mule haulage. Employs 6 to 15 miners.

Jones, or Hoon.

Located at East Palestine. Operated by the Jones Coal Co., East Palestine, O. John Jones, Supt.; Thos. Jones, mine boss, both of East Palestine, O. Drift to No. 7 seam, 3 ft. thick. Furnace ventilation; pick mining; mule haulage. Employs 7 to 15 miners.

Feb. 5th. Ordered restrictions relative to the use of calcium carbide carried out; blasting powder kept in boxes; non-perishable material used for stoppings between the main intake and return.

Vasey.

Located at Salineville, O. Operated by Sarah Vasey, Salineville, O. Wm. Walters, Salineville, O., has full charge. Drift to strip vein, 3 ft. thick. Furnace ventilation; pick mining; mule haulage. Employs 7 to 10 miners.

Jan. 23d. Main air-course choked by a fall of roof. Ordered it cleaned out.

March 6th. Second opening had become unavailable by reason of falls of roof. Ordered an additional opening made. Also ordered restrictions relative to the use of calcium carbide, carried out.

Reichenbach.

Located at North Georgetown, O. Operated and managed by Edward Reichenbach, North Georgetown, O. Shaft 60 ft. to No. 3 seam, 3 ft. thick. Exhaust steam ventilation; pick mining. Employs 4 miners and 3 day men.

Wheat Hill.

Located at East Palestine, O. Operated by the Wheat Hill Coal Co., East Palestine, O. Drift to No. 7 seam, 2 ft 6 in. thick. Domestic mine, employing about 5 miners.

Colonial No. 6.

Located at New Salisbury, on the C. & P. R. R. Operated by the McLain Fire Brick Co., Pittsburgh, Pa. H. R. Lloyd, Supt.; Jacob Ehlenbach, mine boss, both of Irondale, O. Drift to No. 6 seam, 3 ft. 6 in. thick. Furnace ventilation; pick mining; mule haulage. Employs 12 miners and 4 day men.

May 12th. Ordered stoppings between the main intake and return, built of non-perishable material.

July 24th. Conditions good.

Colonial No. 3.

Located at New Salisbury, O., on the C. & P. R. R. Operated by the McLain Fire Brick Co., Pittsburg, Pa. H. R. Lloyd, Supt.; Grant Grimes, mine boss, both of Irondale. Drift to seam of clay, 12 ft. thick. Employs 8 miners and 2 day men.

May 12th. Ordered explosives kept in boxes and restrictions relative to the use of calcium carbide, carried out.

July 24th. No orders given.

Negley Clay.

Located at Negley, O., on the Pittsburgh, Lisbon & Western Ry. Operated by the Negley Clay Co., Negley, O. Jas. Powers, Supt.; Chas. Whitmer, mine boss, both of Negley. Drift to No. 5 seam of coal, 18 in. thick, and clay 6 ft. thick. Natural ventilation; mule haulage. Employs 10 miners and 2 day men.

Connor.

Clay mine located at Rogers, O., on the Pittsburgh, Lisbon & Western R. R. Operated by R. M. Connor, Rogers, O., who has full charge. Drift to seam of clay 6 ft. thick.

May 20th. Investigated accident in which Wm. A. Schell lost the sight of both eyes and a portion of his left arm by an explosion of dynamite. At this time also gave orders to make an additional opening and to have restrictions relative to the use of acetylene carried out.

American Sewer Pipe No. 3.

Located at Laughlin, O., on the C. & P. R. R. Operated by the American Sewer Pipe Co., Akron, O. M. J. Edwards, Supt.; John C. Young, mine boss, both of East Liverpool, O. Slope opening to seam of clay 12 ft. thick. Natural ventilation; rope haulage. Employs 6 miners and 5 day men. This mine is always found in good condition.

American Sewer Pipe No. 36.

Located one mile east of Lisbon, O., on the P. L. & W. R. R. Operated by the above company. Drift to seam of clay 6 ft. thick. Employs 8 men.

July 2d. Ordered explosives kept in boxes. Suspended during the greater part of the year.

Buckeye.

Located at Wellsville, O., on the C. & P. R. R. Operated by the McLain Fire Brick Co., Pittsburgh, Pa. H. H. Hine, Supt.; Stewart Rolley, mine boss, both of Wellsville, O. Drift opening to seam of clay 12 ft. thick. Natural ventilation; mule haulage. Employs 9 miners and 3 day men.

April 15th. Ordered wooden tamper used to tamp dynamite. Conditions usually good.

Champion.

Located at Wellsville, O., on the C. & P. R. R. Operated by the above company. H. D. McKenzie, mine boss, Wellsville, O. Drift to seam of clay 6 ft. thick. Natural ventilation; animal haulage. Employs 8 miners and 4 day men. A second opening was completed in September, providing an additional traveling-way and greatly improving the ventilation.

East Liverpool Brick.

Located at Laughlin, O., on the C. & P. R. R. Operated by the East Liverpool Brick Co., East Liverpool, O. Harry Orwell, Supt.; E. R. McDaniel, mine boss, both of East Liverpool. Drift to seam of clay, 7 ft. thick. Natural ventilation. Employs 8 men. Condition usually good.

McNichol.

Located at East Liverpool, O. Operated by the D. E. McNichol Pottery Co., East Liverpool, O. Jos. Naylor, Wellsville, O., has full charge. Drift to seam of clay, 12 ft. thick.

Sheppard.

Domestic mine, located at Salineville, O. Operated by John Sheppard, same place, who has full charge. Shaft, 40 feet to No. 7 seam, 4 ft. thick. Employs 4 miners. This is a new mine and has but one opening.

Ohio Clay Products No. 1.

Located at Salineville, on a spur of the C. & P. R. R. Operated by the Ohio Clay Products Co., Pittsburgh, Pa. James Bray, Salineville, O., has full charge. Shaft, 85 feet to 12 ft. seam of clay. Fan ventilation. Employs 8 miners. Condition usually good.

The following mines were abandoned during the year:

Big Walnut, Washingtonville, No. 3 seam, operated by the Card & Prosser Coal Co., Cleveland, O.

Prospect Hill No. 1, East Palestine; operated by the Prospect Hill Coal Co., East Palestine, O. No. 6 seam.

Prospect Hill No. 7, East Palestine; operated by the Prospect Hill Coal Co., East Palestine, O. No. 7 seam.

Pleasant Valley No. 6, Negley; operated by the Negley Coal Co., Negley, O. No. 6 seam.

The following mines remained suspended during the year:

Prospect Hill No. 2, two miles west of East Palestine; operated by the Prospect Hill Coal Co., East Palestine, O. No. 7 seam.

Beech Grove, New Salisbury; operated by the Buckeye Clay & Coal Co., Cleveland, O. No. 3 seam.

Rock Camp, south of West Point, on the Y. & O. R. R. R.; operated by the Rock Camp Coal Co., Lisbon, O. No. 7 seam.

Vulcan, Wellsville, O.; operated by the Vulcan Clay & Brick Co., Wellsville, O. Clay mine.

CARROLL COUNTY.

Kirk.

Located two miles west of Salineville, on a spur of the C. & P. division of the Penna. lines. Operated by the Storm-Loomis Coal Co., Cleveland, Ohio. Sherman Liggett, Salineville, O., has full charge. Drift opening to strip vein, 3 ft. thick. Fan ventilation; machine mining; motor haulage. Employs 75 miners and 30 day men.

March 30th. Ordered trolley wires placed in compliance with the law; blasting powder kept in boxes; refuge holes along haulage roads cleaned out and kept in good condition; and defective door at No. 33 room in No. 19 entry repaired.

Sept. 25th. No orders given. This mine, in common with others in the district, was suspended for six months during the year.

Sterling.

Located two miles west of Salineville, on a spur of the C. & P. division of the Penna. lines. Operated by the Sterling Coal Co., Ltd., Cleveland, O. Matthew Smith, Supt.; Richard Hetherington, mine boss, both of Salineville. Drift opening to strip vein, 3 ft. to 3 ft. 6 in. thick. Fan ventilation; machine mining; motor haulage.

June 14th. Ordered wires boarded over at cross-overs; defective trap doors repaired; blasting powder kept in boxes; and mine boss to visit working places each alternate day. During the suspension of this year an additional opening was made at the head of the workings and the power house located at that point, greatly shortening the power transmission lines and insuring increased efficiency in the transmission of power. Storage battery gathering locomotives designed especially for this mine by the Chief Electrician, E. B. McNichol, have proved a marked success. This mine employs 170 miners and 85 day men.

JEFFERSON COUNTY.

Amsterdam.

Located at Amsterdam, on the L. E. A. & W. R. R. Operated by the Y. & O. Coal Co., Cleveland, O. Richard Jones, Supt.; Edw. Wardle, mine foreman, both of Amsterdam. Shaft, 276 feet to the Lower Freeport, or Roger seam, 4 ft. 6 in. thick. Fan ventilation; machine mining; mule and motor haulage. Employs 160 miners and 80 day men.

Jan. 20th and 21st. Noted that although there was a good supply of timber at the working faces some of the miners were negligent in the matter of proper timbering. Drivers in some instances were riding front end of cars, wires were not protected at cross-overs, fine coal on roadways, and some miners not provided with boxes for blasting powder. Ordered these conditions corrected. Also ordered fire-proof door placed on inby end of stable and guard rail placed around belt in power house.

Sept. 28th. Tested scales and found them correct.

West Pittsburgh No. 2. (Zerbe)

Located at Amsterdam, on the L. E. A. & W. R. R. Operated by the Ohio & Penna. Coal Co., Cleveland, O. John Lees, Supt.; David Patrick, mine foreman, both of Amsterdam. Shaft, 185 feet to the Lower Freeport, or Roger seam, 5 ft. thick. Fan ventilation; machine mining; mule and motor haulage. Employs 160 miners and 85 day men.

March 18th and 19th. Noted fine coal in workings and on roadways; refuge holes not in proper condition; refuse from calcium carbide scattered around in the mine; temporary wooden stoppings between the main intake and return; empty oil barrels in the mine; insufficient supply of timber in some of the working places, and that sometimes men were lowered into the mine without a man in charge at the bottom. Ordered these conditions remedied.

Sept. 4th. Made examination preparatory to a resumption of operations after a suspension of five months. Ordered first-aid supplies.

West Pittsburgh No. 1. (Rice.)

Formerly called the Rice mine. Located two miles south of Bergholz, on the L. E. A. & W. R. R. Operated by the Ohio & Penna. Coal Co., Cleveland, Ohio. Matthew Speicher, Supt.; Robert Featheringham, mine foreman, both of Bergholtz. Slope opening to Lower Freeport, or Roger seam, 5 ft. 6 in. thick. Fan ventilation; machine mining; mule and motor haulage. Employs 170 miners and 75 day men.

Jan. 3d. Tested scales and found them apparently correct. Ordered a stairway from tippie to ground and device installed to prevent runaway cars from running down the slope.

Feb. 28. Investigated accident in which George Edwards, a driver, was killed by falling in front of a loaded car.

Oct. 9th. With Chief Deputy, J. M. Roan, conferred with management regarding agreement for hauling men into and out of the mine.

Oct. 29th. Ordered restrictions relative to the use of carbide, carried out; blasting powder kept in boxes; material used for connection between machine cables and positive wire in entries kept with the machines.

Dec. 29th. With Chief Deputy, J. M. Roan, Deputy Inspector, Hugh Gaffney, and representatives of the operating company and miners, made an examina-

tion to determine the sufficiency and availability of the traveling ways to and from the mine with relation to streams of water on the surface. On account of the sudden illness of the Chief Deputy, the examination was not completed at this time.

X. L.

Located at Bergholz, on the L. E. A. & W. R. R. Operated by the Wright & Zehner Co., Cleveland, O. J. S. McKeever, Supt.; John Peterson, mine foreman, both of Bergholz. Fan ventilation; machine mining; motor haulage. Employs 80 miners and 30 day men. This mine has an extraordinarily strong roof and the coal is of excellent quality. A number of notable improvements have been made, including a new power plant and the installation of gathering locomotives.

Nebo.

Located at Bergholz, on the L. E. & W. R. R. Operated by the Clover Leaf Coal Co., Bergholz, O. Shaft 40 feet to the Lower Freeport, or Rogers seam, 3 ft. to 3 ft. 6 in. thick. Ordinarily employs about 15 miners and 8 day men, but has been suspended during the entire year.

Elizabeth.

Located about two miles from Amsterdam, on a spur of the L. E. A. & W. R. R. Operated by the Wolf Run Mining Co., Cleveland, O. Shaft, 293 feet to the Lower Freeport, or Roger seam, 4 ft. 6 in. thick. Jos. Baker, Supt.; Andrew Bobby and Harry Marsen, mine foremen, all of Wolf Run, O. Fan ventilation; machine mining; motor haulage. Employs 180 miners and 90 day men.

March 12th and 13th. Noted that in some instances blasting powder was not kept in boxes; refuse from calcium carbide was deposited or scattered around in the mine; indicator was not in use on drum of hoisting engine; guides in shaft in which men are lowered and hoisted, badly worn; wires at some of the cross-overs, not properly protected; refuge holes along haulage roads not maintained as required by law. Ordered these conditions corrected.

June 23d. Visited this mine with Deputy Inspectors, L. D. Devore and Hugh Gaffney, to investigate an explosion which occurred on June 14th. At the time of this explosion the fan had not been operated for sixteen days and during this interval the mine had filled with firedamp to such an extent that it began to drift up the shaft. One of the workmen engaged in making repairs to the fan, carried an open light into the fan house, igniting the gas. A more extended reference to this explosion will be found in the report of the Chief Deputy and Safety Commissioner.

As the ventilating system in use at this mine has been unsatisfactory, in that a portion of the intake current passed through abandoned workings, it was deemed advisable to have the air current reversed, passing return air through the abandoned workings, to have the inaccessible, abandoned workings sealed off with substantial stoppings and to have drill holes from the surface penetrate the sealed portions. In this connection, I conferred with the management on July 29th, at which time stoppings for the conduction of ventilation to the working faces (these stoppings having been blown out by the explosion of June 14) had been rebuilt, but pending the final disposition of the question of the reversal of the ventilating current, the doors had not been rebuilt, canvas being used instead. To quote from my report of July 29, 1914:

"Management states that while admitting the desirability of having the air current reversed, it will hamper the operation of the mine during the winter

months on account of freezing in the hoisting shaft, and they wish to have the matter discussed more fully by the Division of Mines and officials of the company."

"Gave instructions to proceed with the construction of sealing stoppings in the inaccessible east section, the stoppings to be constructed as follows:

"Inside stoppings to be of brick, laid in cement, not less than eighteen inches thick and anchored securely in the ribs, roof and bottom; ten feet of refuse securely packed, and outside stoppings of brick laid in cement, 30 inches thick and securely anchored to the ribs, roof and bottom, thus making stoppings 14 feet thick in which pipes with valves shall be inserted."

"The matter of drill holes from the surface was discussed but locations were not decided upon."

Sept. 5th, 6th and 7th. Made an examination preparatory to a resumption of operations after a suspension from March 31. Found all working places clear, but found small quantities of fire damp in several places in the abandoned workings. The air current had been reversed in accordance with agreement between the operating company and the division of mines. Gave orders that all standing gas much be removed and loose roof on haulage roads taken down before operations are resumed; provide not less than 12 safety lamps; fire bosses must not travel singly when examining abandoned workings; fire bosses shall make daily report to deputy mine inspector; have wire boarded over at cross-overs; provide first aid supplies; keep fine coal off roadways and keep roadways moistened at all times; place guides in shaft in proper alignment; have all safety lamps examined by a fire boss before they are taken into the mine, and keep safety lamps in a locked receptacle when not in use.

Oct. 5th. Investigated accident in which Chas. Kula was killed by a fall of roof, while on his way out of the mine.

Oct. 9th. Visited with Chief Deputy, J. M. Roan. No orders were given.

No. 3 Creek Vein.

Located at Irondale, on the C. & P. R. R. Operated by the East Ohio Sewer Pipe Co., Irondale, O. W. E. Williams, Supt.; Edw. Williams, mine foreman, both of Irondale. Drift opening to No. 3 seam, 3 ft. 6 in. thick. Fan ventilation; pick mining; animal haulage. Employs 10 miners and 2 day men.

Feb. 17th. Ordered blasting powder kept in boxes. Condition always good.

East Ohio Sewer Pipe.

Located at Irondale, on the C. & P. R. R. Operated by the East Ohio Sewer Pipe Co., Irondale, O. W. E. Williams, same place, has full charge. Fan ventilation; animal haulage. Employs 8 miners and 6 day men. Shaft opening to 12 ft. seam of clay. Condition always good.

East Ohio Sewer Pipe No. 2.

Located at Irondale, on the C. & P. R. R. Operated by the above company. W. E. Williams has full charge. Shaft, 140 feet to 12 ft. seam of clay. Fan ventilation; animal haulage. Employs 6 miners and 4 day men.

May 7th. Ordered safety catches repaired; side plates placed on cage; speaking tube installed in shaft; hoisting signal code observed.

July 23d. Ordered explosives stored not less than 1,000 feet from mine opening, and the use of inferior illuminating oil discontinued.

No. 2 Creek Vein.

Located at Irondale, on the C. & P. R. R. Operated by the above company. W. E. Williams, same place, has full charge. Drift opening to No. 3 seam, 3 ft. thick. Fan ventilation; machine mining; animal haulage. Employs 5 miners and 3 day men.

May 7th. No orders given.

July 23d. Ordered guard rail placed around the fan and a device carried on rear of trip on incline to prevent cars from running down in case the rope or coupling breaks.

McLain & Dando Strip Vein.

Located near Irondale, on the C. & P. R. R. Operated by the McLain Fire Brick Co., Pittsburgh, Pa. F. J. Dando, Supt.; Samuel Parsons, mine foreman, Hammondsville, O. Drift opening to strip vein, 2 ft. 4 in. thick. Fan ventilation; pick mining; employs 8 miners. Conditions always satisfactory.

McLain & Dando No. 2.

Located near Irondale, on the C. & P. R. R. Operated by the above company. F. J. Dando, Irondale, O., Supt.; John Wardeska, same place, mine foreman. Shaft, 125 feet to 12 ft. seam of clay. Fan ventilation; animal haulage. employs 7 miners and 6 day men.

May 8th. Ordered No. 3 right entry timbered.

July 21st. Ordered fan kept running continuously, and stoppings to carry ventilation to working faces completed.

Middle Works.

Located at Empire, O., on the C. & P. R. R. Operated by the Stratton Fire Clay Company, Empire, O. John Thomas, Empire, O., Supt. and mine boss. Drift to No. 6 seam, 4 ft. thick. Furnace ventilation; pick mining; mule and rope haulage. Employed 20 miners and 5 day men.

Jan. 5th. Investigated accident in which Albert Skinner was killed by a fall of roof in the main entry on Jan. 3d.

June 18th. Ventilation deficient in left hand workings. This mine was abandoned during the latter part of the year.

Stratton Clay.

Located at Empire, O., on the C. & P. R. R. Operated by the Stratton Fire Clay Co., Empire, O. T. N. Draa, Empire, O., has charge. Shaft, 50 feet to 10 ft. seam of clay. Natural ventilation.

June 18th. Idle. No orders given.

Ohio River Clay.

Located at Empire, O., on C. & P. R. R. Operated by the Ohio River Sewer Pipe Co., Empire, O. Shaft, 40 feet to 10 ft. seam of clay. Natural ventilation. Employs 6 miners and 3 day men. Condition usually fair.

Feb. 24th. Investigated accident in which Wm. Ten Eyck was killed by an explosion of dynamite by reason of his failure to wait a sufficient length of time after igniting a shot before going back to it.

Ohio River Coal.

Located at Empire, O., on the C. & P. R. R. Operated by the above company. C. L. Vance, Empire, O., has charge. Drift opening to No. 6 seam,

3 to 4 ft. thick; furnace ventilation; pick mining; mule haulage. Employs 15 miners and 5 day men. In common with other mines in which the single entry system is in use the ventilation is somewhat unsatisfactory.

Great Northern.

Located at Empire, O., on the C. & P. R. R. Operated by the Great Northern Sewer Pipe Co., Empire, O. Ernest Thomas, Toronto, O., has charge. Slope to 8 ft. seam of clay. Natural ventilation. Employs 6 miners and 5 day men. This mine was formerly worked by means of a 40-foot shaft, but a slope opening was made during this year.

Nicholson.

Located at Empire, O., on the C. & P. R. R. Operated by the Toronto Fire Clay Co., Toronto, O. Harry Nicholson, Supt.; Thos. Gilligan, mine foreman, both of Toronto, O. Slope opening to seam of clay, 12 ft. thick with coal 3 ft. thick; fan ventilation. Employs 10 miners and 5 day men.

Feb. 2d. Ordered explosives kept in boxes.

May 28th and *Nov.* 12th. Condition good. No orders given.

Little Giant.

Located at Toronto, O., on the C. & P. R. R. Operated by the Toronto Fire Clay Co., Toronto, O. Harry Nicholson, Supt.; A. S. Peckins, mine foreman, both of Toronto, O. Shaft, 45 ft. to seam of clay, 12 ft. thick; fan ventilation. Employs 15 miners and 11 day men. Condition generally good.

Kaul Clay.

Located at Toronto, O., on the C. & P. R. R. Operated by the Kaul Clay Mfg. Co., Toronto, O. J. A. Lewis, Toronto, O., has charge. Slope to seam of clay, 7 ft. thick with coal 3 ft. thick; natural ventilation; motor haulage.

Feb. 3d. Ordered shield constructed around gear wheels on electric pump. An additional opening has been made near the head of the workings.

Kaul Coal.

Located at Toronto, O., on the C. & P. R. R. Operated by the above company. Austin Ferguson, Toronto, O., has full charge. Fan ventilation; pick mining; mule and motor haulage. Employs 33 miners and 8 day men.

Feb. 3d. Ordered blasting powder kept in boxes; marker carried on rear of motor trip; and non-perishable material used for stoppings between the main intake and return.

Forest City Coal.

Located at Toronto, O., on the C. & P. R. R. Operated by the American Sewer Pipe Co., Akron, O. John Ferguson, Toronto, O., has full charge. Drift opening to No. 7 seam, 3 ft. 3 in. thick; fan ventilation; pick mining; mule haulage. Employs 24 miners and 14 day men.

June 17th. Ordered blasting powder kept in boxes and non-perishable material used for stoppings between the main intake and return. The condition of this mine is usually good.

Forest City Clay.

Located at Toronto, O., on the C. & P. R. R. Operated by the American Sewer Pipe Co., Akron, O. W. B. Francy, Supt.; Jas. Milne, mine foreman,

both of Toronto, O. Slope opening to seam of clay, 10 ft. thick; fan ventilation. Employs 10 miners and 8 day men.

April 8th. Ordered explosives kept in boxes.

Dec. 8. No orders given. This mine is usually found in good condition.

Great Western.

Located at Toronto, O., on the C. & P. R. R. Operated by the American Sewer Pipe Co., Akron, O. W. B. Francy, Supt.; Daniel Hinkle, mine foreman, both of Toronto. Shaft, 40 feet to seam of clay, 10 ft. thick; fan ventilation. Employs 11 miners and 7 day men. It has been suspended during the greater part of the year.

Ohio Valley Clay.

Located at Toronto, on the C. & P. R. R. Operated by the American Sewer Pipe Co., Akron, O. W. B. Francy, Supt., Toronto, O.; Alex. Hayes, mine foreman, Salineville, O. Shaft, 50 ft. to seam of clay, 8 to 10 ft. thick, with coal 3 ft. thick; fan ventilation. Employs 12 miners and 11 day men.

April 7th. Ordered guard rail constructed around belt on electric pump.

April 28th. Investigated accident in which J. F. Sumpter was killed by a premature explosion of dynamite.

Dec. 15th. Condition good. No orders given.

Minor.

Located at Empire, O., on the C. & P. R. R. Operated by the Minor Fire Brick Co., Empire, O. E. S. Minor, Supt., Empire, O.; G. M. Knisely, R. D. No. 2, Toronto, O., mine foreman. Drift opening to seam of clay, 10 ft. thick; furnace ventilation. Employs 6 miners and 3 day men.

May 13th. Ordered exhaust pipe from gasoline engine repaired. Condition otherwise fairly good.

Congo.

Located at Empire, O., on the C. & P. R. R. Operated by the Standard Fire Brick Co., Pittsburgh, Pa. W. M. Gilmer, New Cumberland, W. Va., has charge. Drift to seam of clay 10 ft. thick and coal 3 ft. thick; natural ventilation; rope haulage. Employs 13 miners and 7 day men.

Feb. 2d. Ordered the main air course cleaned out and retimbered; non-perishable material used for stoppings between the main intake and return; and mine boss to procure an instrument with which to measure the ventilation.

April 14th. Noted that a gasoline engine had been installed without the approval of the Division of Mines. Ordered its use discontinued. Also ordered explosives kept in boxes and mine boss to measure ventilation each week.

Oct. 22d. Management preparing to install rope haulage system. Called attention of management to the laws governing the operation of rope haulage.

Dec. 16. No orders given.

Standard.

Located at Irondale, O., on the C. & P. R. R. Operated by the Standard Fire Brick Co., Pittsburgh, Pa. Drift opening to seam of clay, 6 ft. thick. Ordinarily employs 10 miners and 4 day men. Has been suspended during the entire year.

Banfield Clay.

Located at Irondale, O., on the C. & P. R. R. Operated by the Banfield Clay Co., Irondale, O. Clifford Wilson, Supt.; William Nightingale, mine

foreman, both of Irondale, O. Shaft, 60 feet to seam of clay, 8 ft. thick; fan ventilation. Employs 12 miners and 4 day men.

April 16th. Ordered mine foreman to measure the ventilation each week and to have the hoisting signal code observed.

July 20th. Ordered side plates and hand holds placed on cage; that a man be kept at the top and bottom at all times while there are persons in the mine; and to keep detonators and explosives in separate boxes.

Oct. 2d. No orders given.

Banfield Coal.

Located at Irondale, O., on the C. & P. R. R. Operated by the above company. Wm. Nightingale, mine foreman. Drift to strip vein, 3 ft. thick; fan ventilation; machine mining. Employs 14 miners and 2 day men.

April 16th. Ordered masonry stoppings between the main intake and return.

July 20th. No orders given.

Union.

Located at Empire, O., on the C. & P. R. R. Operated by the Union Clay Mfg. Co., Empire, O. Geo. Myers, Supt.; J. O. Evans, R. D. No. 2, Steubenville, O., mine foreman. Slope opening to seam of clay, 6 ft. thick, with coal 3 ft. thick; fan ventilation; electricity is used for drilling, hoisting and pumping. Employs 11 miners and 8 day men.

Jan. 27th. Main air course had become unavailable as a means of ingress and egress to and from the mine. Ordered it put in good condition. Also ordered guard rail placed around belt and pulley on electric hoist, and shield placed on gear wheels of electric pump. Condition of mine generally good.

MAHONING COUNTY.

Lowellville.

Located at Lowellville, O., on the P. & L. E. R. R. Operated by the Lowell Coal Mining Co., Youngstown, O. Roger Horn, Lowellville, O., has full charge. Shaft, 75 feet to No. 1 block seam, 3 ft. thick; fan ventilation; pick mining. Employs 18 miners and 5 day men.

Nov. 19. Visited with Assistant Chief Deputy J. C. Davies. An alternating current equipment for pumping had been installed contrary to law and without consulting the Division of Mines. This equipment was ordered removed from the mine and the use of alternating current discontinued.

Fisk.

Located at Marquis, O., on the E. R. R. Operated by the American Fire Clay Co., Cleveland, O. E. E. McCartney, Calla, O., has full charge. Slope opening to seam of cannel coal, 3 ft. thick, underlaid with 4 ft. of clay, which is worked in connection with the coal. Employs about 35 men.

July 3d. Ordered wooden tamper used to tamp dynamite; non-perishable material used for stoppings between the main intake and return; traveling way put in good condition; and leaky stoppings and doors repaired.

Greenamyers.

Located at Salem, O. Operated by the Callahan Coal Co., R. D. No. 6, Salem, O. H. W. Callahan, Supt.; Frank Zimmerman, mine boss, both of R. D. No. 6, Salem, O. Shaft, 107 feet to No. 3 seam, 3 ft. 3 in. thick; furnace ventilation; pick mining. Employs from 6 to 15 miners.

July 10th. Ordered stairway in shaft repaired and safety gate replaced at top of shaft.

Holwick.

Located near Salem. Operated by Koons Bros., Salem, O. Slope opening to No. 3 seam, 3 ft. thick; furnace ventilation; pick mining. Employs 5 to 10 men. This is a small domestic mine.

North Lima No. 1.

Located near North Lima, O., on the Youngstown & Southern R. R. Operated by the North Lima Co., Washingtonville, O. Thos. Macallum, same place, has full charge. Shaft, 75 feet to No. 3A seam, 2 ft. 6 in. thick; fan ventilation; machine mining. This mine is worked on the long wall system. Employs 8 miners and 2 day men.

July 7th. Ordered safety gate placed at top of shaft; guard rail constructed around belt in power house; and stairway built in south compartment of hoisting shaft.

Nov. 20th. Visited with Assist. Chief Deputy J. C. Davies. Ordered map extended.

Jones-Mackey.

Located near Youngstown, O. Operated by the Jones-Mackey Coal Co., Youngstown, O. Shaft, 140 feet to No. 1 block seam, 3 ft. thick. Suspended during the entire year.

MINES VISITED OUTSIDE OF THE TWELFTH DISTRICT.**BELMONT COUNTY.****Wheeling Creek.**

Located two miles west of Bridgeport, O., on the B. & O. R. R. Operated by the Lorain Coal & Dock Co., Columbus, O. Visited Feb. 9th and 11th with Chief Deputy J. M. Roan, Assist. Chief Deputy J. C. Davies, Deputy Inspectors Devore and Gaffney, representatives of the operating company, the U. S. Bureau of Mines and manufacturers of calcium carbide, in connection with an explosion which occurred in this mine on Jan. 29th. Details will be given in report of Chief Deputy.

Clifford.

Located at Dille, O., on the C. & P. R. R. Operated by the Fort Pitt Coal Co., Pittsburgh, Pa. Visited June 4th with Assist. Chief Deputy J. C. Davies and Deputy Inspectors L. D. Devore, Hugh Gaffney and W. H. Werker, to examine conditions arising from standing gas in abandoned workings. Filed joint report, which appears elsewhere in this report.

CARROLL COUNTY.**Hazelwood.**

Located at Dell Roy, O., on the W. & L. E. Ry. Operated by the Eastern Ohio Mining Co., Canton, O. Visited May 27th to investigate complaint of mine committee with regard to ventilation. Found the ventilation very poor. Ordered return airway made as soon as possible and the force of men and animals kept within the requirements of the law in proportion to the volume of air in circulation. Also ordered all stoppings and doors in No. 1 entry made air-tight; doors on mouths of all rooms but one at the head of return side of No. 1 entry; blasting powder kept in boxes; and restrictions relative to the use of calcium carbide carried out.

JACKSON COUNTY.**Superior No. 9.**

Located three miles southeast of Wellston, O., on the C. H. & D. Ry. Operated by the Superior Colliery Co., Wellston, O. Visited Aug. 13th with Chief Deputy J. M. Roan, Assist. Chief Deputy J. C. Davies, and Deputy Inspectors on account of a fire which destroyed the tippie and surrounding buildings and which extended into the mine. Details will be found in the report of the Chief Deputy.

PERRY COUNTY.**Sunday Creek No. 301.**

Located at Congo, O., on the Z. & W. R. R. Operated by the Sunday Creek Coal Co., Columbus, O. Visited Aug. 19th, 20th and 21st in company with Chief Deputy J. M. Roan, Assist. Chief Deputy J. C. Davies and Deputy Inspectors with rescue car to explore the section affected by a fire, on account of which the mine had been sealed for several months. Details will be found in the report of the Chief Deputy and Safety Commissioner.

PART THREE

DIRECTORY OF COAL MINES BY COUNTIES. INDEX.

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DIRECTORY OF COAL MINES BY COUNTIES.

ATHENS COUNTY.

Black Diamond Coal Co.....	Columbus.
Big Four Coal Company.....	Broadwell.
Schuler, J. F. & Son.....	Broadwell.
Canaan Coal Co.....	Canaanville.
Carbondale Coal Co.....	Chillicothe.
East Hill Coal Co.....	Nelsonville.
Elm Rock Coal Co.....	Nelsonville.
Mason-Osey Coal Co.....	Doanville.
Hisylvania Coal Co.....	Columbus.
Hocking Mining Co.....	Athens.
Lama, J. M.....	Nelsonville.
Luhrig Coal Washing & Mining Co.....	Charleston, W. Va.
Jackson-Hocking Coal Co.....	Columbus. (Columbia Bldg.)
Manhattan Coal Co.....	Nelsonville.
Eagle Coal & Shale Co.....	Buchtel. (c/o Porter Sweesey, Supt.)
Northern Fuel Co.....	Nelsonville.
Nelsonville Brick Co.....	Nelsonville.
New Pittsburgh Coal Co.....	Columbus.
Clifton Coal Co., Nelsonville, O.....	Nelsonville.
Leased to Jas. Meenan & Jno. McKee.....	Nelsonville.
Rice Mining Co.....	Dayton.
Hocking Valley F. C. Co.....	Nelsonville.
Poston Consolidated Co.....	Athens.
Sunday Creek Coal Co.....	Columbus.
Pan American Coal Co.....	Zanesville.
Standard Coal Co.....	Nelsonville.
Robbins Coal Co.....	Nelsonville.
York Clay & Mining Co.....	Nelsonville.
Meeker Run Coal Co.....	Nelsonville.

BELMONT COUNTY.

Valley Camp Coal Co.....	Cleveland.
American Sheet & Tin Plate Co. (A. E. Logan Division Mgr.)	Pittsburgh, Pa.
Barton Coal Co.....	Cleveland.
Bakewell Coal Co.....	Bellaire.
Pursglove-Maher Coal Co.....	Cleveland.
Equitable Coal Co.....	Flushing.
Cambria Mining Co.....	Toledo.
Captina Coal Co.....	Armstrong's Mills.
Carnegie Steel Co.....	Pittsburgh and Bellaire.
Colburgh Coal Co.....	Columbus.
Cooke & Gilbert Coal Co.....	Bellaire.
Franklin Coal Co.....	Stewartsville.
Head, F. L., Coal Co.....	Barnesville.
Ft. Pitt Coal Co.....	Pittsburgh, Pa. and Mounds- ville, W. Va.

DIRECTORY OF COAL MINES BY COUNTIES — Continued.

Flushing Coal Co.....	Elyria.
Foster-Watson Coal Co.....	Bellaire.
Hutchinson Coal Co.....	Fairmont, W. Va.
Gilhooley, P. F.....	Bellaire.
Johnson Coal Co.....	Bellaire.
Ridgeway-Burton Co.....	Cleveland.
Bixler-Ohio Coal Co.....	Columbus.
Davey, Thos.	Barnesville.
Long, Thos.	Shadyside.
Lorain Coal & Dock Co.....	Columbus.
Meister Coal Co.....	Flushing.
Morgan Coal Co.....	Bellaire.
Pittsburgh-Belmont Coal Co.....	Columbus.
Pittsburgh-Cleveland Coal Co.....	Cleveland.
Progress Coal Co.....	Cleveland.
Progressive Coal Co.....	Bellaire.
Fitzgerald, Wm.	Bridgeport.
Hite, Ed.	Martins Ferry.
Pittsburgh Superior Coal Co.....	Shadyside.
Provident Coal Co.....	Cleveland.
Rail & River Coal Co.....	Cleveland.
Standard Stone & Brick Co.....	Bellaire.
Riley, A. & Bros.....	Bridgeport.
Roby-Somers Coal Co.....	Cleveland.
Suburban Brick Co.....	Wheeling, W. Va.
Schick & Co., M. J.....	Bellaire.
Sheets, Mary J.....	Martins Ferry.
St. Claire Coal Co.....	Cleveland.
Trolls Coal Co.....	St. Clairsville.
Virginia Hill Coal Co.....	Cleveland.
West Wheeling Coal Co.....	Bridgeport.
Whitaker-Glessner Coal Co.....	Wheeling, W. Va.
Woodall & Sims Coal Co.....	Martins Ferry.
Y. & O. Coal Co.....	Cleveland.

CARROLL COUNTY.

Big Four Clay Co.....	Canton.
Deckman Duty Brick Co.....	Cleveland.
Greer Beatty Clay Co.....	Magnolia.
Eastern Ohio Coal Co.....	Canton.
Malvern F. C. Co.....	Malvern.
Metropolitan P. B. Co.....	Canton.
National Fire Proof Co.....	Canton.
Ohio Mining & Railway Co.....	Canton.
James Bros. Coal Co.....	Magnolia.
Robinson Clay Product Co.....	Akron.
Storm Loomis Coal Co.....	Cleveland.
Sterling Coal Co., Ltd.....	Cleveland.
Whittacre F. P. Co.....	Waynesburgh.
Magnolia Coal Co.....	Magnolia.
Becker, John	Malvern.

DIRECTORY OF COAL MINES BY COUNTIES—Continued.

COLUMBIANA COUNTY.

American S. P. Co.....	Akron.	
Big Vein Coal Co.....	Cleveland.	
Columbia F. C. Co.....	Cleveland.	
McLain F. B. Co.....	Wellsville.	
Card & Prosser Coal Co.....	Cleveland.	
Salem Mining Co.....	Salem.	
Elk Run Coal Co.....	Rogers.	
Jones Coal Co.....	E. Palestine.	
Lewis & Evans.....	Lisbon.	
McLain F. B. Co.....	Pittsburgh.	
National F. P. Co.....	Pittsburgh.	(Haydenville.)
East Liverpool Brick Co.....	East Liverpool.	
New Waterford Coal Co.....	New Waterford.	
Negley Clay Co.....	Negley.	
Neiheisel Coal Co.....	Leetonia.	
Reese Bros.	Salem.	
Sterling Coal Co., Ltd.....	Cleveland.	
Walters, Wm.	Salineville.	
Kirk-Dunn Coal Co.....	Cleveland.	
W. H. Dunn.....	Salem.	
Miller & Coulson.....	Pittsburgh.	(Diamond Bank Bldg.)
Strabley, Jas. S.....	Salineville.	

COSHOCTON COUNTY.

Barnes Coal Mining Co.....	Coshocton.
Columbus Coal Mining Co.....	Coshocton.
Davis, David	Coneville.
Davis, Jas. G.....	Coneville.
Forest Hill Coal Co.....	Coshocton.
Furnell & Sons.....	Coshocton.
Daniel Hudson	Coshocton.
Ingham Bros.	Coshocton.
Morgan Run Coal Co.....	Cleveland.
Oden Valley Coal Co.....	Coshocton.
Ohio Block Cannel Co.....	Toledo.
Powers Coal Co.....	Coshocton.
Rock Run Coal Co.....	Coshocton.
Warwick Coal Co.....	Cleveland.
Wolford, M. S.....	Coshocton.

GALLIA COUNTY.

Vasper Coal Co.....	Nelsonville.
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GUERNSEY COUNTY.

Akron Coal Co.....	Akron.
Cambridge Collieries Co.....	Cleveland.
Frame & Williams.....	Byesville.
Forsythe Coal Co.....	Cambridge.
McMahon, C. S.....	Cambridge.

DIRECTORY OF COAL MINES BY COUNTIES — Continued.

McCoy & Tobin.....	Byesville.
Midland Coal Co.....	Cambridge.
Morris Coal Co.....	Cleveland.
National Coal Co.....	Cleveland.
Nicholson Clay Product Co.....	Cambridge.
Pigeon Gap Coal Co.....	Cleveland.
Puritan Coal Co.....	Cambridge.

HARRISON COUNTY.

Blair Mining Co., A. G.....	Toledo.
North Fork Coal Co.....	Adena.
Newton Coal Mining Co.....	Dennison.
Oliver Coal Co.....	Pittsburgh, Pa.
Short Creek Coal Co.....	Cleveland.
Stillwater Coal Mining Co.....	Cleveland.
Hutson Coal Co.....	Cleveland.

HOCKING COUNTY.

Carbon Coal Co.....	Carbon Hill.
Joyce Coal Co.....	Carbon Hill.
Central Hocking Coal Co.....	Columbus.
Columbus Brick & Terra Cotta Co.....	Columbus.
Hocking Valley Products Co.....	Columbus.
Cook & Davis.....	Jobs.
B. & R. Coal Co.....	Nelsonville.
Essex Coal Co.....	Columbus.
Gem Coal Co.....	Nelsonville.
John Boyle	New Straitsville.
National F. P. Co.....	Pittsburgh. (Haydenville.)
Globe Coal Co.....	Murray City.
North Hocking Coal Co.....	Murray City.
L. H. Nixon Coal Co.....	Nelsonville.
Bowers, Fox & Cook.....	Jobs.
New Pittsburgh Coal Co.....	Columbus.
Manhattan Coal Co.....	Nelsonville.
McAllister, E.	Haydenville.
Sims, L. A.	Nelsonville.
Kramer Bros.	New Straitsville.
Murray City M. Co.....	Columbus. (Schultz.)
Ohio F. P. Co.....	Nelsonville.
Dehner-Miller Coal Co.....	Carbon Hill.
Sand Run Coal Co.....	Carbon Hill.
Love Bros.	Nelsonville.
Starr-Hocking Coal Co.....	Starr.
Sunday Creek Co.....	Columbus.
Jno. Murdy Coal Co.....	Carbon Hill.

HOLMES COUNTY.

Bowen, R. W.....	Millersburg.
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DIRECTORY OF COAL MINES BY COUNTIES—Continued.

JACKSON COUNTY.

Armstrong Coal Co.....	Jackson.
Alburn Coal Co.....	Wellston.
Bloomfield Mining Co.....	Wellston.
Hayes Coal Co.....	Chapman.
Elk Horn Mining Co.....	Rempel.
Cochran Coal Co.....	Jackson.
Domestic Coal Co.....	Wellston.
Davis Fire Brick Co.....	Oak Hill.
Detroit & Wellston Coal Co.....	Wellston.
Elk Fork Coal Co.....	Wellston.
Evans, T. J. Coal Co.....	Jackson.
Emma Coal Co.....	Jackson.
Globe Iron Co.....	Jackson.
Glen Roy Coal Co.....	Jackson.
Gosline & Co., W. A.....	Toledo.
Harper Coal Co.....	Coalton.
Jackson Coal Co.....	Oak Hill.
Jackson & W. Va. Fuel Co.....	Oak Hill.
Jackson Iron & Steel Co.....	Jackson.
Milton Mining Co.....	Wellston.
Mohawk Coal Co.....	Wellston.
Jackson Coal Co.....	Jackson.
Northern Coal Mining Co.....	Jackson.
Ohio Fire Brick Co.....	Jackson.
Rowe & Rhodes.....	Coalton.
Sloan Coal Co., C. A.....	Jackson.
Sun Mining Co.....	Jackson.
Superior Colliery Co.....	Wellston.
Dee Clay Products Co.....	Oak Hill.
Minglewood Coal Co.....	Wellston.
Paine, Jas.	Jackson.
R. & W. Coal Co.....	Wellston.
Twinada Coal Co.....	Wellston.
Wellston Colliery Co.....	Wellston.
Browne Coal Co.....	Wellston.
Maynard Coal Co.....	Columbus. (20 E. Broad St.)
Ward Coal Co.....	Oak Hill.
Jackson Coal Co.....	Oak Hill.

JEFFERSON COUNTY.

American Sewer Pipe Co.....	Akron.
Augusta Coal Co.....	Pittsburgh.
Brettell Bros.	Mingo Junction.
Wright & Zehner.....	Bergholz.
Blythe Coal Co.....	Pittsburgh.
Clover Leaf Coal Co.....	Bergholz.
Dexter Coal Co.....	Steubenville.
Beach Flats Coal Co.....	Danville, Ill.
East Ohio S. P. Co.....	Irondale.
Great Northern S. P. Co.....	Empire.

DIRECTORY OF COAL MINES BY COUNTIES — Continued.

Banfield Clay Co.....	Irondale.
Cox Coal Co.....	Brilliant.
Ekey Coal Co.....	Steubenville.
F. W. Harris and E. C. Thornton.....	Tiltonville.
Glens Run Coal Co.....	Cleveland.
Jefferson Coal Co.....	Cleveland.
Kaul Clay Mfg. Co.....	Toronto.
LaBelle Iron Works.....	Steubenville.
Morris Poston Coal Co.....	Cleveland.
Modern Coal Mining Co. (C. E. Maurer, Receiver)	Cleveland.
Nicholson, P. R.....	Dillonvale.
Ohio & Pennsylvania Coal Co.....	Cleveland.
Minor F. B. Co.....	Empire.
Pluto Coal Co.....	Rayland.
Roby Coal Co.....	Cleveland.
Russell Coal Co.....	Cleveland.
Sugar Hill Coal Co.....	Steubenville.
Herman Avril	Coal Grove.
Standard F. B. Co.....	Pittsburgh.
Steubenville Coal Mining Co.....	Steubenville.
Stratton F. C. Co.....	Empire.
Toronto Fire Clay Co.....	Toronto.
United States Coal Co.....	Cleveland.
Wolf Run Coal Co.....	Cleveland.
W. & L. E. Coal Mining Co.....	Cleveland.
Y. & O. Coal Co.....	Cleveland.
Union Clay Mfg. Co.....	Empire.

LAWRENCE COUNTY.

Cambria Clay Product Co.....	Black Fork.
Portsmouth Refractories Co.....	Fire Brick.
Bear Run Mining Co.....	Eifort.
Fuggitt, Henry and Russell.....	Coal Grove.
Geil, Andrew	Ironton.
Ginn Coal Co.....	Ironton.
Grassy Fork Coal Co.....	Jep.
Halley Coal Co. (Jos. Kelley).....	Pedro.
Hanging Rock Iron Co.....	Hanging Rock.
Ironton Portland Cement Co.....	Ironton.
Jenkins, Jno. M.....	Fire Brick.
Johnson Bros.	Strobel.
W. R. Maxey.....	Culbertson.
Superior Portland Cement Co.....	Superior.
Willard, E. B. & Co.....	Ironton.
Rutledge, Wm.	Ironton.
Riley Michael	Ort.

MAHONING COUNTY.

American Fire Clay Co.....	Cleveland.
Callahan Coal Co, R. D. No. 6.....	Salem.

DIRECTORY OF COAL MINES BY COUNTIES—Continued.

Lowell Coal Co.....	Youngstown.
North Lima Co.....	North Lima.

MEDINA COUNTY.

Hambleton Bros.	Wadsworth.
Hutchinson Coal Co.....	Wadsworth.
James Coal Co.....	Wadsworth.
Gerstenschlager, V. & Sons.....	Wadsworth.

MEIGS COUNTY.

Ebersbach, George	Pomeroy.
Essex Coal Co.....	Columbus.
Hines, Wm.	Pomeroy.
Stalters-Essex Coal Co.....	Columbus.
Russell Run Coal Co.....	Carbon Hill.
River View Coal Co.....	Middleport.
Owens, Thos.	Middleport.
Maynard Coal Co.....	Columbus.
Pomeroy Coal Co.....	Columbus.
Sherman Coal Co.....	Middleport.
Skidmore Coal Co.....	Middleport.
Ohio River Coal Co.....	Columbus.
Peacock Coal Co.....	Pomeroy.
Pittsburgh Mining Co.....	Pomeroy.
Hocking Domestic Coal Co.....	Nelsonville.
Hobson Coal Co.....	Rutland.
Thomas Coal Co.....	Racine.
Sherman Coal Co.....	Middleport

MORGAN COUNTY.

Crown Coal Co.....	Wellston.
Tropic Mining Co.....	Toledo.

MUSKINGUM COUNTY.

Blue Rock Coal Co.....	Gayssport.
Granville Nutter	Philo.
Elk Coal Co.....	Columbus.
Fisher, F. A.....	Zanesville. (Arlington Hotel)
Greiner, H. L.....	Zanesville.
Burton-Townsend Co.	Zanesville.
Jonathan Creek Coal Co.....	Pittsburgh, Pa.
Maynard Coal Co.....	Columbus.
McGarvey, J. A.....	Philo.
Pan American Coal Co.....	Zanesville.
Red Bud Coal Co.....	Cannelville.
Rose Hill Coal Co.....	Detroit, Mich.
Pan American Coal Co. (Leased to Thos. Corbett & Hiram Wilson).....	Zanesville.

DIRECTORY OF COAL MINES BY COUNTIES — Continued.

Werner, W. A.....	Zanesville.
Fisher, Wm.	Zanesville.
Tumblin, Robert	Zanesville.

NOBLE COUNTY.

Cambridge Collieries Co.....	Cleveland.
Humphreys, H. L. & Co.....	Coal Run.
Middle States Coal Corporation.....	Chicago, Ill.

PERRY COUNTY.

Corning Mining Co.....	Toledo.
Davis Coal Co.....	New Straitsville.
Hanna-Essex Coal Co.....	New Straitsville.
Gosline, W. A. & Co.....	Toledo.
H. V. Products Co.....	Columbus.
Hocking Block Coal Co.....	New Straitsville.
Straitsville Impervious Brick Co.....	New Straitsville.
Iron Clay Brick Co.....	Columbus.
Jobs Coal Co.....	Columbus.
English Hill Coal Co.....	Shawnee.
Jones Coal Co.....	New Straitsville.
Jenkins, D. C. & Co.....	Shawnee.
Murray-Hemlock Coal Co.....	Murray.
Ohio Products Co.....	New Straitsville.
Pan American Coal Co.....	Zanesville.
Claycraft Mining & Brick Co.....	Shawnee.
Perry County Coal Co.....	Moxahala.
Peabody Coal Co.....	Chicago.
Blue Jay Coal Co.....	Wellston.
Monsarrat Coal Co., C. R.....	Hemlock.
Royal Flushing Mining Co.....	New Straitsville.
Simons, A. & Son.....	New Lexington, R. D. 2.
Sines Bros. & Co.....	New Straitsville.
Shawnee Flash Brick Co.....	Columbus.
Standard Hocking Coal Co.....	Chicago.
Sunday Creek Coal Co.....	Columbus.
Upson Coal Mining Co.....	Newark.
Wheeler-Mason Coal Co.....	Columbus.
Zanesville Coal Co.....	Zanesville.
King, F. L.....	Crooksville.
Kennon, R. D.....	Roseville.

PORTAGE COUNTY.

Hutson Coal Co.....	Cleveland.
Strong Bros. Coal Co.....	Atwater.

SCIOTO COUNTY.

Buckeye Fire Brick & Clay Co.....	Scioto Furnace.
Carlyle Paving Brick Co.....	Portsmouth.
Harbison-Walker Refractories Co.....	Pittsburgh.
Morgan & Horton.....	Eifort.

DIRECTORY OF COAL MINES BY COUNTIES—Continued.

STARK COUNTY.

Agricultural & Commercial Lime Co.....	Canton.
Bollinger, F.	Osnaburg.
Camp, H. B.....	Aultman.
Eberhard Clay Co.....	Massillon.
Federal Clay Product Co.....	Mineral City.
Heinzer, Jos.	Massillon.
Keim Brick & Tile Co.....	Louisville.
Louisville Brick & Tile Co.....	Louisville.
Massillon Elm Run Coal Co.....	Cleveland.
Lehmiller, Samuel	Canton.
Massillon Coal Mining Co.....	Cleveland.
Milton Coal & Mining Co.....	North Industry.
National Fire Proof Co.....	Canton.
Sonnhalter Coal Co.....	Massillon.
Smith, Mrs. L. E.....	Greentown.
Smith Coal Co.....	New Berlin.
Pocock Coal Co.....	Massillon.
Urban Hill Coal Co.....	North Lawrence.
Willow Grove Coal Co.....	North Lawrence.
Whitaker Fire Proofing Co.....	Waynesburgh.
Kester, Wm., Sr.....	Osnaburg.
Edgefield Coal Co.....	Canton.
Arntz, Chas.	North Industry.
Barber, O. C.....	Canton.
Blank & Bliler.....	Canal Fulton.

SUMMIT COUNTY.

Beechwood-Massillon Coal Co.....	Cleveland.
Myers & Ohio Coal Co.....	New Berlin.
Robinson Clay Product Co.....	Akron.
Camp, H. B.....	Aultman.
Lilley, Wm.	Akron. (Clark St.)

TUSCARAWAS COUNTY.

American Sheet & Tin Plate Co.....	Pittsburgh.
Dennison Sewer Pipe Co.....	Dennison.
Enterprise Clay Co.....	Port Washington.
County Electric Light Co.....	New Philadelphia.
Deans & Meiser.....	New Philadelphia.
Ross Clay & Product Co.....	Dennison.
Brown, H. R. & R. G.....	New Philadelphia.
Scott Coal Co.....	Midvale.
Uhrichsville Clay Co.....	Uhrichsville.
American S. P. Co.....	Akron.
Little, S. A.....	Dennison.
Myers, Theo.	New Berlin.
Beatty, R. C.....	New Philadelphia.
Rothaker Bros.	Canal Dover.
Hiawatha Coal Co.....	Uhrichsville.

DIRECTORY OF COAL MINES BY COUNTIES—Continued.

Buckeye Fire Clay Co.....	Uhrichsville.
Akron Coal Co.....	Akron.
Indian Hill Coal Co.....	Cleveland.
Dover F. B. Co.....	Strasburg.
Evans Clay Mfg. Co.....	Uhrichsville.
Advance Fire Clay Co.....	Uhrichsville.
Grimes Coal Co.....	New Philadelphia.
Schneider & Pyle.....	Summerdale.
Schneider, H. C.....	New Philadelphia.
National Fire Brick Co.....	Strasburg.
Goshen Central Coal Co.....	Massillon.
Bucher & Brick Co.....	New Philadelphia.
Horger & Heldt.....	New Philadelphia.
Geo. Dean & Ben Misner.....	New Philadelphia.
Mathias, Jno.	New Philadelphia.
Markley, Geo. J.....	Mineral City.
Massillon Tuscarawas Coal Co.....	Massillon.
Midvale-Goshen Coal Co.....	Cleveland.
Mullins Coal Co.....	Cleveland.
National F. B. Co.....	Strasburg.
Novelty Brick Co.....	Newsomertown.
Tuscarawas Electric Light Co.....	Newsomertown.
Reeves Coal Co.....	Canal Dover.
Klein, C. R.....	New Philadelphia.
Robinson Clay Product Co.....	Akron.
Robinson-Graves S. P. Co. (Leased to Scott Bros., Midvale).....	Uhrichsville.
Royal-Goshen Coal Co.....	New Philadelphia.
Rufenacht, F.	New Philadelphia.
Midvale Coal Co.....	Midvale.
New Philadelphia Coal & Mining Co.....	New Philadelphia.
Myers, Scott P.....	Uhrichsville.
Houk, Jacob L.....	Canal Dover.

VINTON COUNTY.

Elk Fork Coal Co.....	Wellston.
Gem City Coal Co.....	Wellston.
Lawler, Jno. L.....	Columbus.
Maple Gallia Coal Co.....	Clarion.
Puritan Brick Co.....	Hamden.
Twentieth Century Coal Co.....	Hawk.
Lomax Bros.	McArthur.

WAYNE COUNTY.

Massillon Coal Mining Co.....	Cleveland.
Massillon Oak Hill Coal Co.....	Massillon.

DIRECTORY OF COAL MINES BY COUNTIES — Continued.

GYPSUM MINES.

ERIE COUNTY.

Kelly Plaster Co..... Sandusky.

OTTAWA COUNTY.

American Gypsum Co..... Cleveland.

American Cement Plaster Co..... Gypsum.

United States Gypsum Co..... Chicago.

United States Gypsum Co..... Gypsum.

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